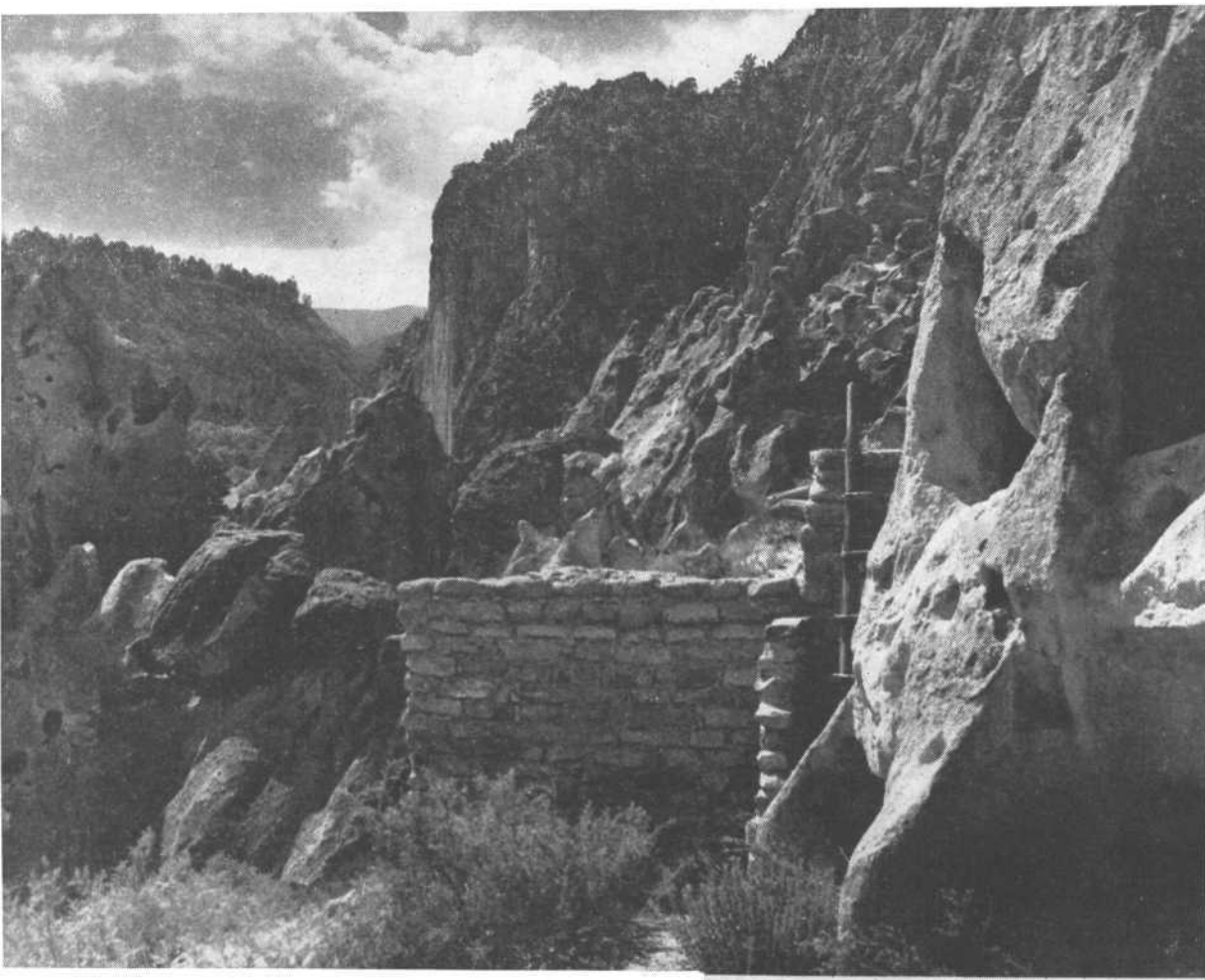


# Desert

NOVEMBER, 1956 . . . 35 Cents





## Fríjoles Canyon

Up-canyon view of the great defile carved by The Little River of the Beans in its spectacular departure from the high Pajarito Plateau. Like the cliff men before us, we stare in awe at this mighty gash slashed by a small stream through deep beds of volcanic ash. Seen from near Talus House, Cone House, and caves of the north cliff wall, Bandelier National Monument.

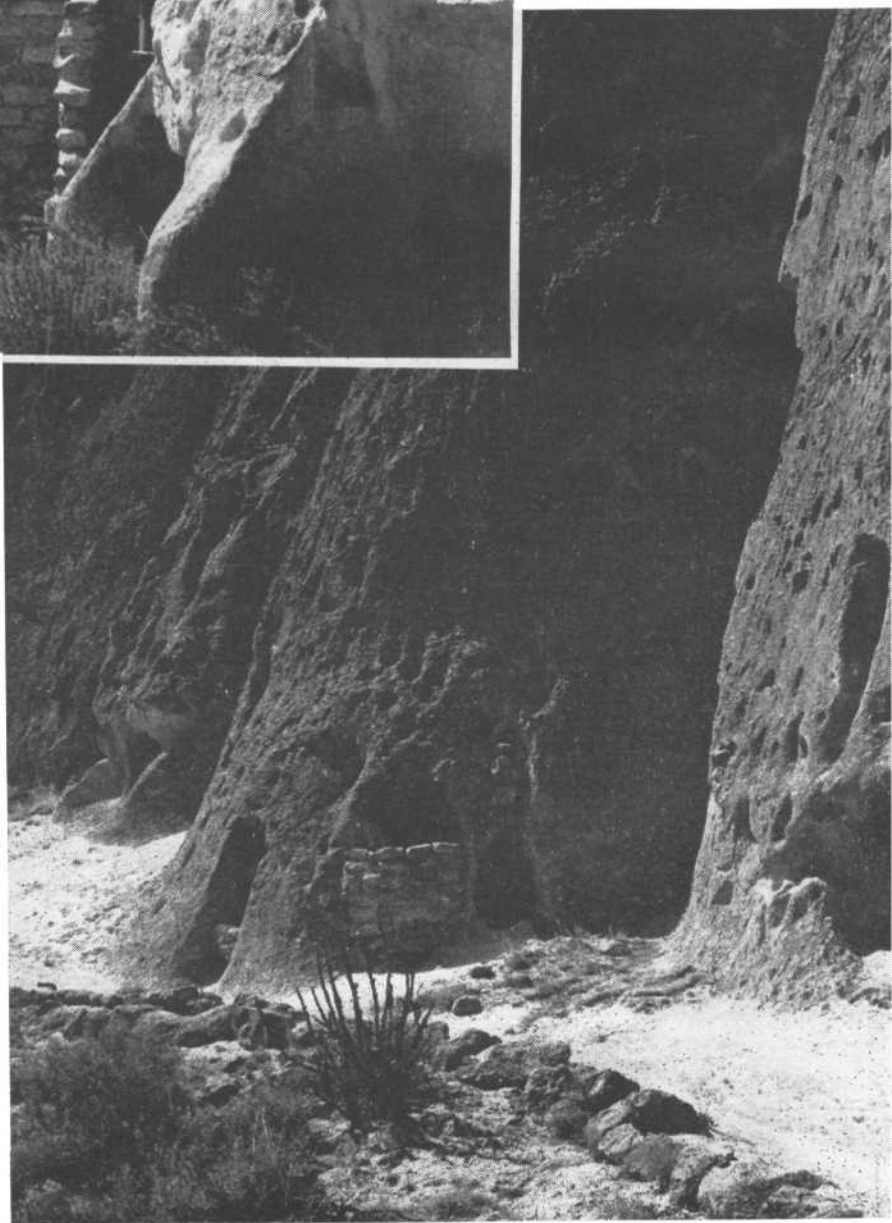
PUEBLO PANORAMAS VIII

## BANDELIER

By JOHN L. BLACKFORD

### Cone House

Curious talus-slope villages and artificial caves, the latter gouged from soft volcanic tuff of the sheer north wall, added to the wide variety of primitive architecture and fascinating modes of cliff-dweller living at Fríjoles Canyon in northern New Mexico. Here Cone House shows the adaptability of early Indian builders to their new home. A great drouth at the end of the 13th century drove them from vastly more pretentious sites at Pueblo Bonito and the cliff cities on Mesa Verde.



## DESERT CALENDAR

Nov. 1—Heard Museum of Anthropology opens season, Phoenix, Ariz.  
 Nov. 2—All Souls' Day Memorial Services in Spanish Villages, N. M.  
 Nov. 2-3—Billy Moore Days, Avondale, Arizona.  
 Nov. 3-4—Annual Fall Road Races, Palm Springs, California.  
 Nov. 3-4—Copper Giant Rodeo, Ajo, Arizona.  
 Nov. 3-12—Arizona State Fair, Phoenix.  
 Nov. 4—Western Saddle Club Gymkhana, Phoenix, Arizona.  
 Nov. 8—Rose Festival, Mesa, Ariz.  
 Nov. 8-9—Northwestern New Mexico Hereford Breeders' Annual Show and Sale, Raton.  
 Nov. 9—Good Neighbor Day, Bisbee, Arizona.  
 Nov. 9-11—14th Annual Desert Weed Show, Twentynine Palms, Calif.  
 Nov. 9-12—Eighth Annual Death Valley, California, Encampment. (See page 20.)  
 Nov. 10-11—Rodeo, Parker, Ariz.  
 Nov. 10-12—Jeep Cavalcaders trip to Mojave Desert, from Hemet, Calif.  
 Nov. 11—Second Annual Air Fair, Winslow, Arizona.  
 Nov. 12—St. James' Day Fiesta and Harvest Corn Dance, Tesuque Pueblo, New Mexico.  
 Nov. 12—Annual Fiesta and Harvest Corn Dance, Jemez Pueblo, New Mexico.  
 Nov. 13-15—National Forest Recreation Association Convention, Tucson, Arizona.  
 Nov. 14-17—Annual Western Week, Palm Springs, California.  
 Nov. 15—Annual Desert Outings by Visitors Club Begin, from Phoenix, Arizona, Adult Center.  
 Nov. 16-21—Annual Golden Spike National Livestock Show, Ogden, Utah.  
 Nov. 17—2nd Annual Indian Harvest Feast, Pueblo Grande, Arizona. Visitors will be served typical meals by Mohaves, Papagos, Pimas, Apaches, Hopis, Navajos and Hualpais.  
 Nov. 17—Washington Garden Club Flower Show, Phoenix, Arizona.  
 Nov. 17-18—Elks Rodeo, Victorville, California.  
 Nov. 18—Founders Day Picnic, Palm Springs, California.  
 Nov. 22—Desert Sun Ranchers Rodeo, Wickenburg, Arizona.  
 Nov. 24-25—Old Tucson Daze, Tucson, Arizona.  
 Nov. 24-25—Junior Parade and Rodeo, Florence, Arizona.  
 Nov. 24-25—Annual Rodeo, Needles, California.  
 Nov. 28-30—Nevada State Farm Bureau Convention, Ely.  
 Nov. 30—Square Dance Festival Preview, Phoenix, Arizona.  
 Nov. 30-Dec. 1—Arizona Cattle Growers Convention, Tucson.  
 After First Frost—Navajo Fire Dances, Navajo Reservation.  
 Late November or Early December—Shalako Dances, Zuni Pueblo, New Mexico.



Volume 19

NOVEMBER, 1956

Number 11

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Keet Seel ruins in Navajo National Monument. Photo by Josef Muench.

### FULFILLMENT

By CONSTANCE WALKER  
Los Angeles, California

O search for Truth and Beauty in the world  
And soon the wings of spirit are unfurled;  
Then desert space and distant stars unbind  
New shining treasure for a gleaning mind.

### *Life Is Just*

By TANYA SOUTH

Sweet, remember life is just,  
Whatever agony or thrust  
Fate may impose. I view the Light  
As one great gleam along the right  
And true course only. Nothing less  
Can ease our living, make distress  
One whit the slighter. Still as we  
Plod onward in Eternity,  
Through sun and storm, by feast or  
crust,  
Let us remember Life is just!

### FAR PERSPECTIVE

By MAUDE RUBIN  
Santa Ana, California

I find my freedom where the clouds blow  
wild,  
Where wind plays on the desert's sounding  
sand—  
Where springtime is the winter's darling  
child  
And gold pours forth at noon-day's high  
command.

Freedom to wonder, freedom to think and  
grow,  
Freedom to look as high as endless sky.  
I listen, let the stars tell what they know—  
Let far perspective train my slothful eye.

I find new prayers where mountains stand  
serene,  
Then send them high like shining eagle-  
word.  
I find new faith in tranquil desert scene  
As I stand before the Candles of the Lord!

## Intrusion

By GRACE BARKER WILSON  
Kirtland, New Mexico

We climbed the ladders up the ruined walls  
Of cliff dwellings. Light laughter filled the  
halls

Of ancient times as tourists crowded in.  
I thought, somewhere above that curious  
din,

I heard a murmur, and dim footsteps passed  
Along sand-covered floors. Across the vast  
Expanse of time between the then and now  
We were intruders in their home, somehow.  
And I was glad when all had left the place,  
And peace returned to ghosts of a dead race.

### NIGHT IN THE DESERT

By RUTH A. INGLESBY  
Torrey, Utah

Stars hang low in their heavenly splendor,  
Lighting a world breath-takingly still,  
Till the wily coyote pauses to render  
A mournful cry from a distant hill.

Silence enfolds me in lonely rapture  
Broken only by whispering sand,  
With poignant longing I strive to capture  
The heart of this vast and beautiful land.

The breeze that tosses all sham asunder,  
Drifting down from the canyon shelf,  
Thrills and fills my soul with wonder—  
I am at peace with God and self.

### LOST TRAILS

By GRACE BARKER WILSON  
Kirtland, New Mexico

Lost trails across the desert still are full  
Of strange adventures. When you feel the  
pull

Of centuries, walk where the tracks are dim  
And find old ruins on a canyon rim.  
And here someone has dug deep by a mound  
For fabled Spanish treasure still unfound.  
The trail may end abrupt as it began  
Beside a modern Navajo hogan.  
And should you wander far at close of day,  
In purple shadows you may lose the way  
Down an arroyo rain gods have forgot,  
Where time's recurring seasons matter not.

### TIMELESS COLORAMA

By MILDRED BREEDLOVE  
Las Vegas, Nevada

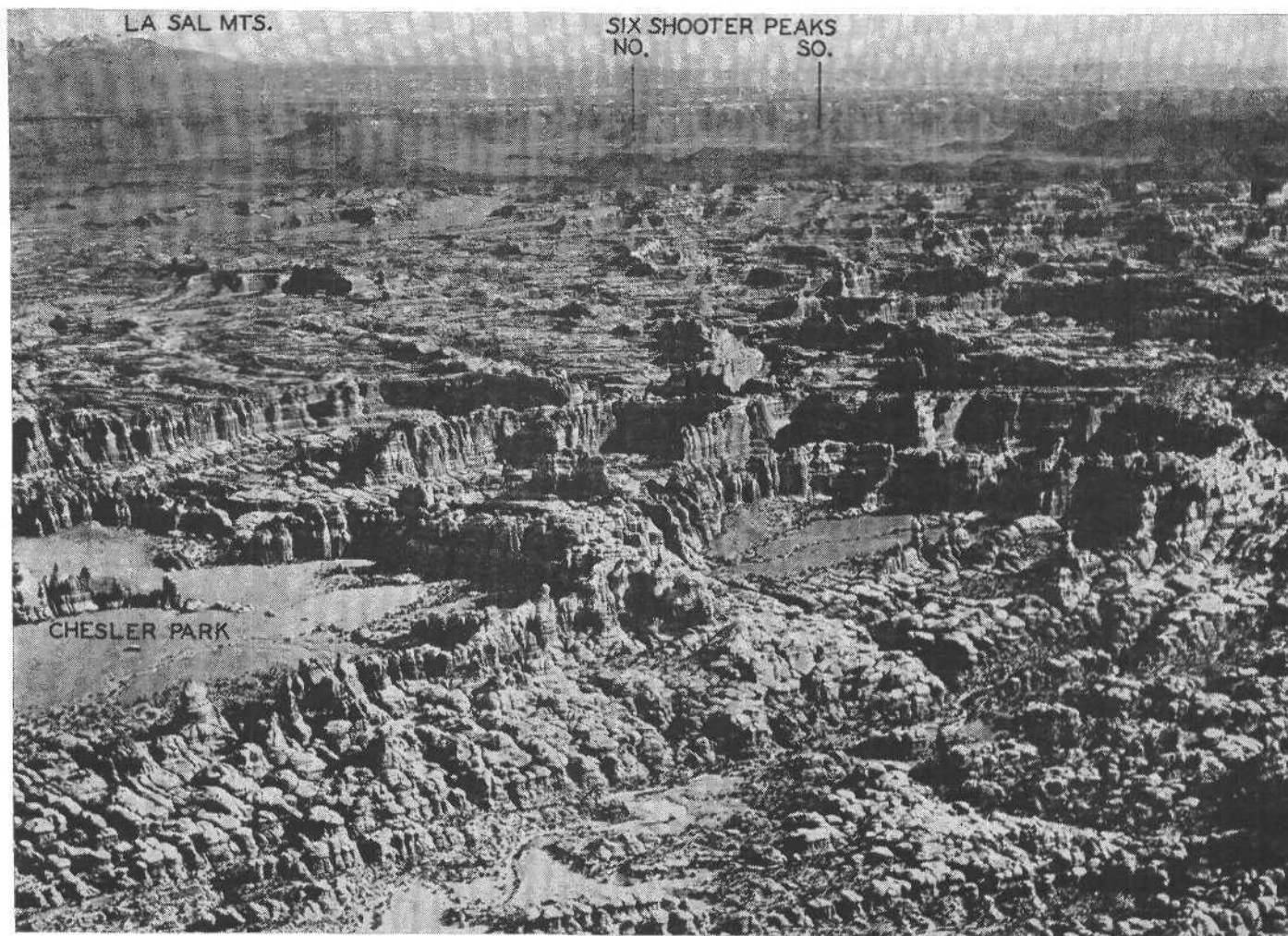
So long as desert hills shall stand  
Unchanged as centuries advance,  
And summer's burning desert sand  
Lies bare in limitless expanse—  
So long as cloudless desert sky  
Keeps watch upon the naked peaks,  
A thousand shades that please the eye,  
Convince the heart that color speaks  
With grandeur and with magnitude  
Beyond the scope of brush or tongue,  
In much the same sweet solitude  
The Maker knew when Earth was  
young.

### DAYLIGHT ON THE DESERT

By MILDRED BREEDLOVE  
Las Vegas, Nevada

The desert is a paint pot,  
Boasting every shade and hue.  
Pink and gold and apricot  
Alternate with lavender,  
As the sun, a master blender,  
Mixes yellow, red and blue.  
And the change, though soft and distant,  
Is as subtle and as constant,  
As the movement of the ocean  
In slow motion.





*Needles area looking northeast over Indian Creek Valley. Department of Interior  
air photo by George Grant.*

# Jeep Trail Into Utah's Rugged Needles Country

Cataclysmic in form, awesome in scope, silent in nature, southeastern Utah's Needles area remains an uncharted, unexplored region reflecting the very fury of the earth's beginnings. Here is a story of one of the ever-growing number of jeep excursions into the fringes of this fantastic land.

By W. G. CARROLL  
Map by Norton Allen

**B**EFORE US spread a maze of towers and spires, great block houses and stone skyscrapers sharply outlined by the setting sun. Were it not for the stunted pinyon and juniper in the foreground and the sweet

scent of the supper fire, it would have been easy to imagine that what I was looking at was Manhattan Island's skyline instead of the silent, fantastic Needles country of eastern Utah.

I was not the first to conjecture up

this resemblance, nor will I be the last. Nearly a hundred years ago, on August 23, 1859, Geologist J. S. Newberry of the MacComb expedition gazed upon the Needles from the mouth of Indian Creek. He described what he saw in these words: "... some idea of their appearance may be gained by imagining the island of New York thickly set with spires like that of Trinity Church, but many of them full twice in height. In every direction the innumerable canyons run ramified deep, dark and rugged, impassable to everything but the winged bird."

Today, man has joined the "winged bird" in flights over the Needles, but he has made little penetration of the area on the ground since Dr. Newberry's visit. Latest geological and topographical maps show the northern tip of the Needles country as a series of fault lines paralleling the Colorado River, but southward, deeper into the labyrinth of eroded and faulted red, buff and white walls and shafts, hundreds of square miles are curtly marked: "Not Mapped."

In my party were Bates Wilson, superintendent of Arches National

Monument; Jerry Herdina of Chicago, an amateur geologist and paleontologist; and my wife, Helen. We had driven south from Moab on U.S. Highway 160 in two jeeps packed with camping gear, reserve supplies and extra gasoline. After 43 miles of good highway, we traveled 20 miles of twisting trail varying from primitive paths to good graded road, which brought us to Dugout Ranch. This ranch, at the junction of Cottonwood and Indian creeks, is headquarters for the Indian Creek Cattle Company and jumping-off-place for the Needles.

It was autumn and Indian Creek valley was a colorful, isolated paradise. The valley floor was a patchwork of green alfalfa fields and thick yellow graze. Sheer red walls of Kayenta intermittently capped with white Navajo sandstone and fingers of rock were close to our right. Similar walls on the left were cut through by Titus and Cottonwood canyons which were topped with magnificent buttes resembling parapets of old world castles. Crowning this beauty were the irregularly spaced clumps of green and golden cottonwoods marching up the deep canyons as far as the eye could see.

This is the gateway to a million acres of rugged grazing land, and the gate itself bore a characteristic notice: "Please open the gate before you go through, and be damn sure you close it after you."

We followed these instructions and drove onto a faint trail which heads

downhill to the Needles country. In the time it takes to shift gears we traveled 200,000,000 years back in geological time. Here we entered a rolling sage and tumbleweed-covered desert, punctuated with strange, abrupt landmarks like the twin North and South Six Shooter Peaks towards which we drove.

After crossing Indian Creek the road turns northwest across miles of broken, eroded country to the base of the mesa out of which the South peak rises as a bright red, tower-capped cone. We climbed the steep talus slope to the mesa top and the peak towered directly above us. Across a mile-wide canyon its identical twin rose like a reflected image in the clear blue mirror of sky.

On the narrow northwestern arm of the mesa we stopped the jeeps and got out to stretch our legs and admire the panorama within the distant enclosing walls in which towers and isolated buttes looked like floating islands in a great bowl of red-brown water.

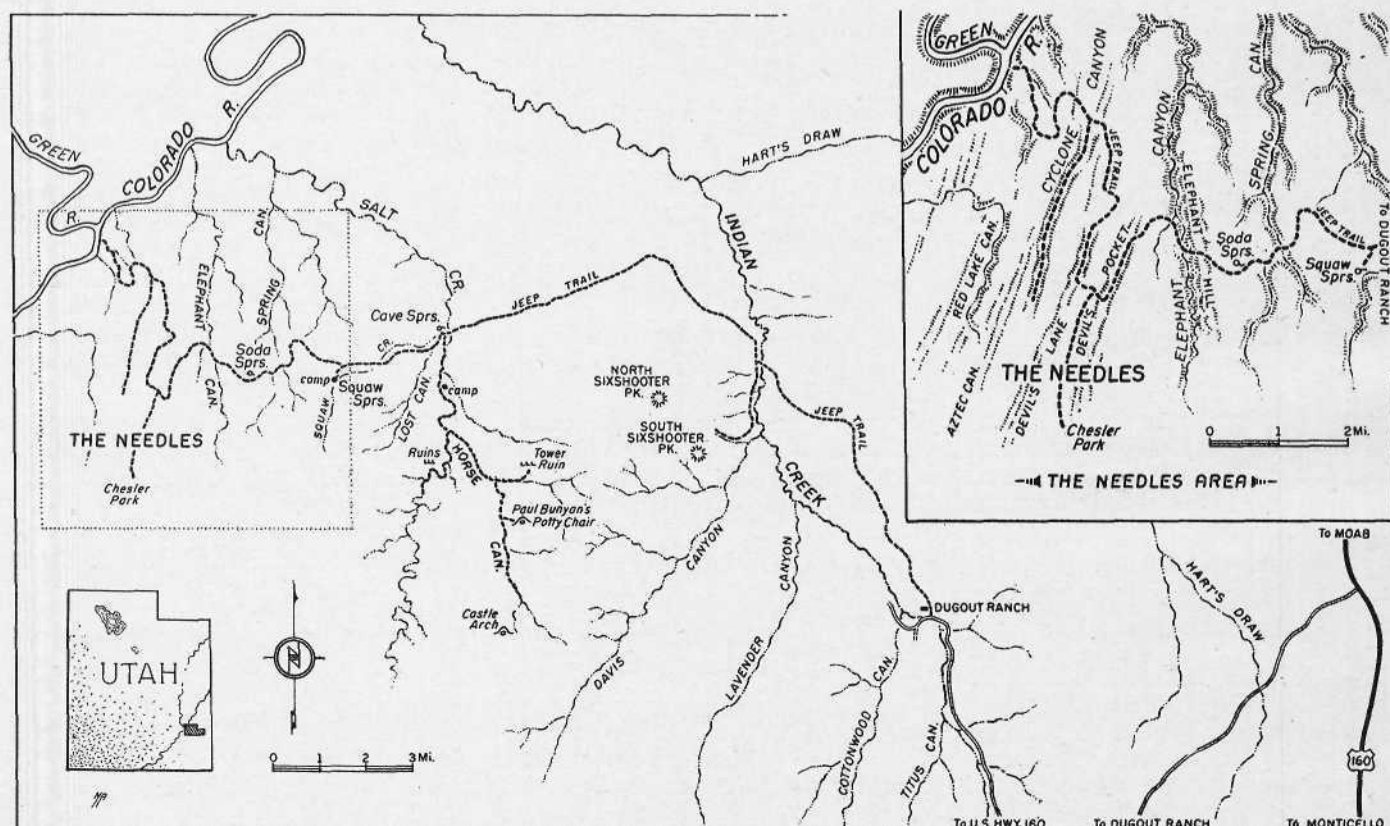
Heavy rains two weeks previously gave the land around us a fresh, clean look and the potholes in the stone benches were filled with cold, clear water. From these waterholes the area's wildlife would find sustenance.

The sun was swinging toward the Needles to the west, and we hurried along to Squaw Springs where we made our base camp. It was here, at sunset, that Manhattan's imagery caught my fancy.

The solid chunk of Bates' big axe awakened me at daybreak. With his dutch ovens and cow country cookery, Bates was a most excellent chef. By the time the rest of us had gathered around the campfire, a frying pan of bacon and one of scrambled eggs were sizzling over the coals, and the big black coffee pot was perfuming the morning air.

We started for the Needles under a half-threatening sky while the sun was still low in what I would have sworn was the south. We traversed a number of deep, narrow canyons and reached the base of Elephant Hill. The Needles area is deeply carved in the massive cross-bedded gray to red sandstone of the Cutler formation. Elephant Hill is a high narrow ridge with steep broken faces of this red sandstone, separating two equally narrow canyons. Gnarled juniper and pinyon cling sparsely to its sides but grow in thick clumps in the canyon bottoms. This is the first real barrier to the Needles and crossing it on horseback or by jeep is an adventure.

The twisting trail out of Elephant Canyon led into the Devil's Lane. This flat, high-walled corridor stretched away before us to a distant group of spires towering over the Devil's Pocket. Devil's Lane was the first of a number of paralleling channels which we entered, some of them many miles long without a break in their walls. The lane, almost barren of growth, was remarkably free of rubble considering





the carelessly piled broken blocks on its walls and rim. Even the juniper huddled against the walls and grew out of the ledges leaving the canyon floor to the struggling patches of grass and occasional dwarf sunflowers. In this as in other Needles canyons we encountered a peculiar faulting which left unexpected cracks and bottomless pits yawning for the unwary.

In the Devil's Pocket we climbed a wall for an overall picture of this secluded park. The group of white-tipped, pink and tan spires which rose hundreds of feet over the opposite wall are landmarks visible from much of the surrounding Needles country. We scrambled higher up the right wall to look into an adjacent canyon. It too was a deep, ragged-walled multi-colored bowl. We would have needed ropes and time to enter it—and months and years to climb each succeeding wall in the hundreds of square miles to the south, where higher towers and deeper canyons, arches and bridges never seen by man lie hidden.

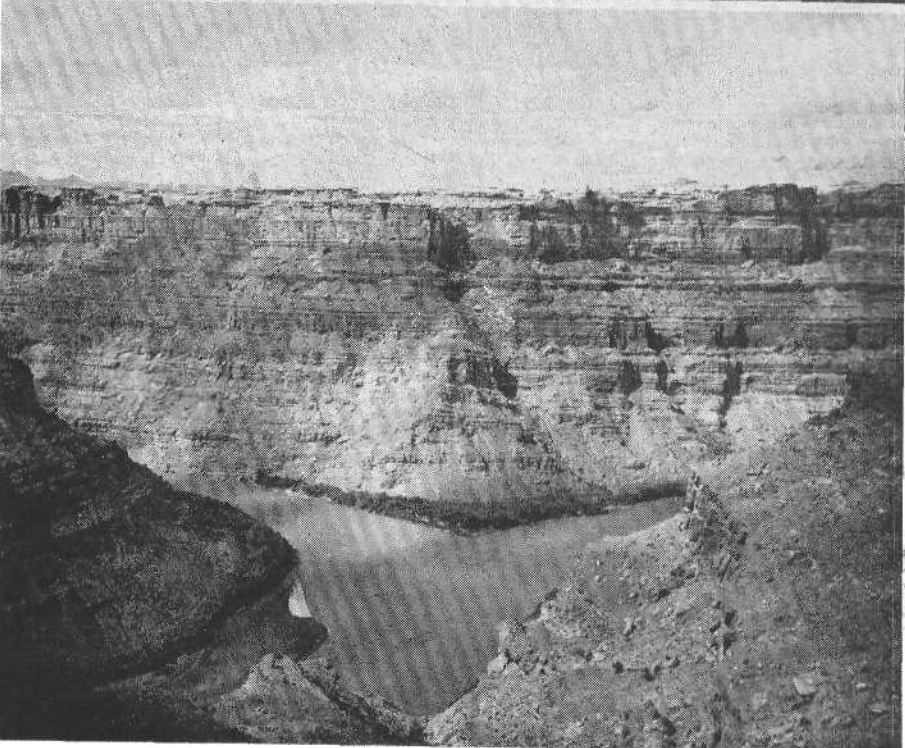
Our trail to the junction of the Colorado and Green rivers lay across the most broken land under the sun, and how Bates followed it across the trackless slickrock and narrow canyons still is a mystery to the rest of us. It was shortly after noon when we arrived at the overlook. Twelve hundred feet below, the placid and muddy Green River joined the equally placid and slightly darker Colorado to start their wild ride down Cataract Canyon. The only green in this barren world of red and pink canyon walls and chocolate bluffs was the lush growth on the two deltas far below. A few miles down the gorge, the fins and pinnacles of the Land of Standing Rocks ended abruptly at the opposite brink.

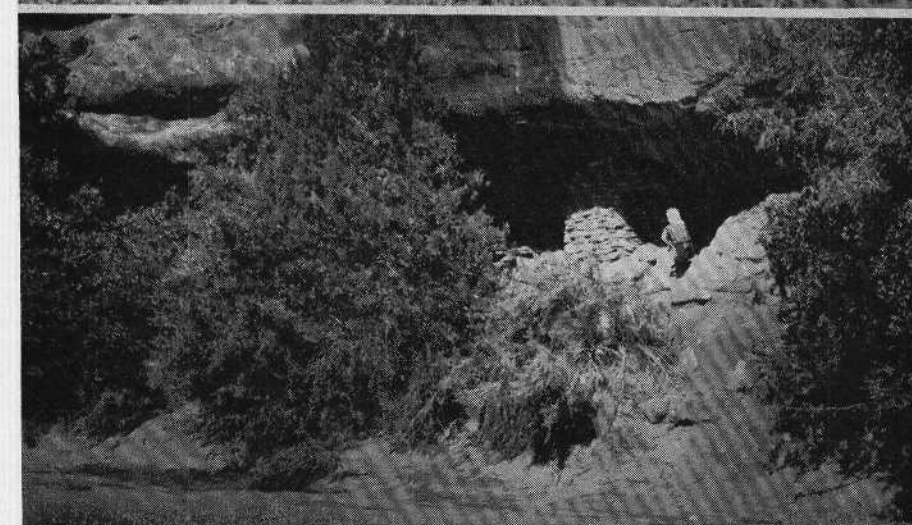
On our return we explored Cyclone Canyon, named by the cowboys who, while searching for stray cattle, had experienced the frequent winds which howl between the high walls. We drove down its miles of length, intrigued by the tri-corner hatted heads on the rim, the massive free-standing pillars, and the dipping and rising strata on opposite walls. In this corridor the floor was almost bare of growth and even the hardy juniper was scarce.

*Top—Helen Carroll drinks from a pothole. In the background is South Six Shooter Peak.*

*Center — In the Devil's Lane with some of the Needles spires in the background.*

*Bottom — Junction of the Green River, from upper left, and Colorado, from right, which continues downstream at lower left to Cataract Canyon.*





In the late afternoon light the trail back to Squaw Springs was an orange and mauve Kodachrome of sunset-tipped spires, sandstone mushrooms and muffins, and weird figures, natural and unnatural, imitated in stone.

Next day we explored the colorfully-banded pastel walls and pinnacles of Chesler Park, named for the rancher who brought cattle into this remote place in 1885. This is one of the most beautiful spots I have encountered in the Four-Corners country, and one of the most inaccessible. Its four square miles of grassy floor is naturally fenced on three sides by the rough sheer walls tipped with the ever-present needles. Delicate shades of red-tan, buff and pink alternate with horizontal bands of white. The green floor slopes toward the northwest and is open on this side to a view of the distant Land of Standing Rocks across the Colorado River. On this open side, the inclosing of Chesler Park is completed by a low eroded barrier of slickrock which drops off into a narrow canyon. Entrance into the park is through a break in this barrier.

On the following day we broke camp and backtracked to a slickrock bench above Salt Creek. Here we made a dry camp and set out in the jeep to explore the canyons to the south.

Although we still were deep in eroded canyon lands, the character of the country quickly changed. Our roads were the wide sandy washes of Salt Creek and Horse Canyon which wound between towering, terraced walls of red and white sandstone, higher than those in the heart of the Needles and by contrast smooth. Occasional clumps of cottonwoods stood along the banks and on the mid-channel islands. Where walls receded leaving clearings, head-high sage grew thickly and waist-high rabbit-brush was crowned with yellow bloom.

Many centuries ago these lonely canyon lands were more densely populated than they are today. Evidence of cliff-dwelling ancients were in every canyon. The few white men who have penetrated this country have not gone far nor stayed long.

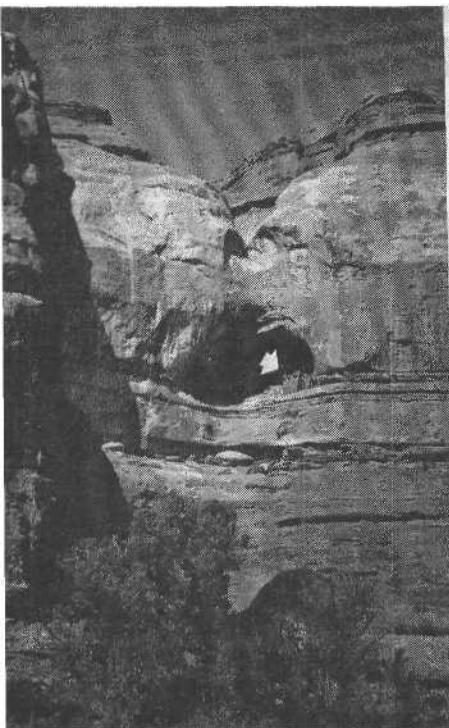
Bates had visited Horse Canyon many times before with his Explorer Scouts from Moab, and was familiar with many of the wide tributary canyons.

*Top—Cyclone Canyon, an earthquake fault. Its name derives from the winds which sweep it frequently.*

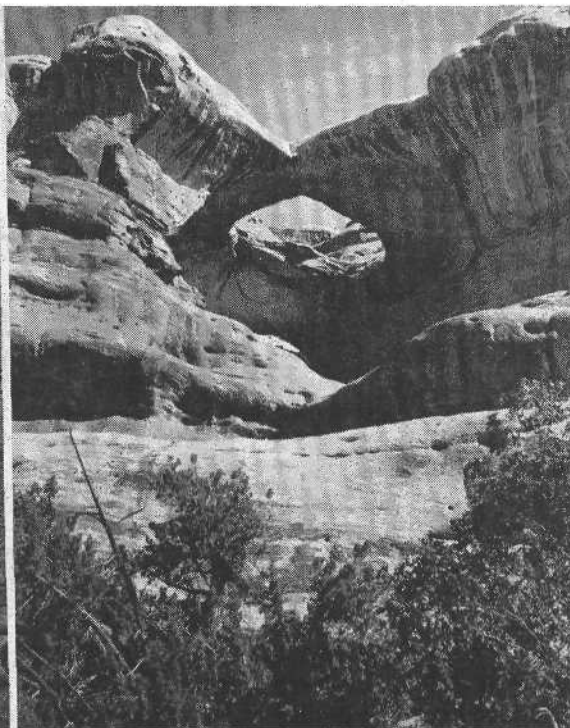
*Center—View to the northwest from Chesler Park. The Needles of Devil's Pocket are at right foreground.*

*Bottom — A circular granary in a tributary to Horse Canyon used by the ancients.*

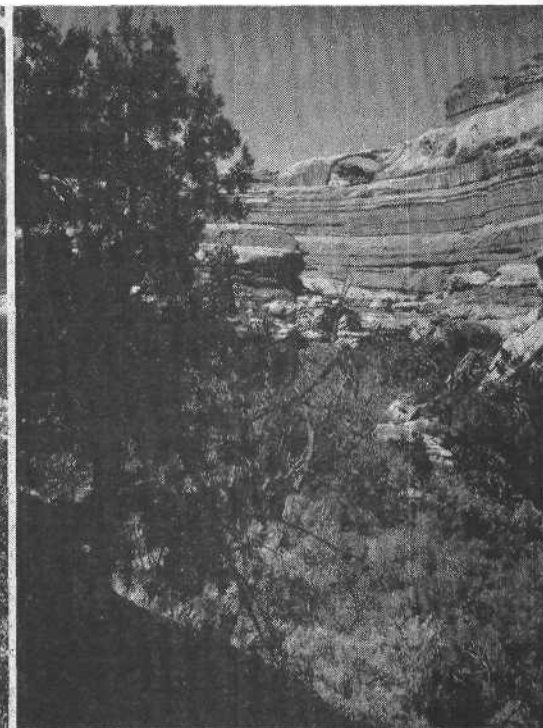




*Tower Ruin (arrow), named for the free-standing red sandstone monolith at left.*



*A window to the sky, eroded through the overhang. Scene is in Horse Canyon.*



*A small tributary of Horse Canyon is crowned with lovely and delicate Castle Arch.*

In one huge canyon bowl he worked the jeep to a point below Tower Ruin, named for the free-standing monolith of red sandstone which rises hundreds of feet above the canyon floor. Climbing to a high shelf, we searched the distant cliffs and terraces across this mile wide bowl with the glasses. Balanced on the ledges and blending with the faults we saw the neat masonry and blank staring doors and windows of these deserted miniature cities.

Farther up Horse Canyon, aeons ago water eroded through the thin bottom of an enormous pothole which was located in the overhang above the canyon floor. Thousands of years of successive floods pouring through it from the slopes above have formed a 50 foot opening to the sky. Some day the Park Service will make this area a wilderness recreation region, and this spectacular attraction will become known as "The Eye" or by some other fitting name.

Two miles ahead our jeep squeezed through the narrows with exactly six inches to spare, and we came to an abrupt, boulder-strewn halt around the next bend. At the far end of a brush-choked side canyon we found beautiful Castle Arch. Its pink and tan ribbon curves high above a sheer fin which drops steeply into the canyons on both sides of it.

Late that afternoon we headed both vehicles back toward Indian Creek. For five days we had scraped here and sampled there on the edge of this

unknown, uncharted land. Chances are the heart of the Needles country will always remain uncharted. I hope

in years to come that we can return and find it as silent, deserted and mysterious as it is today.



*'Tis not the weight of jewel or plate,  
Or the fondle of silk and fur;  
'Tis the spirit in which the gift is rich,  
As the gifts of the wise ones were;  
And we are not told whose gift was gold  
Or whose was the gift of myrrh.*

—Edmund Vance Cooke

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# THE *Desert* MAGAZINE

## CLOSE-UPS

W. G. Carroll's first *Desert Magazine* feature, "Jeep Trip into Utah's Rugged Needles Country" appears in this month's issue. Carroll recently retired

after 25 years of employment as an engineer and plans to "roam the Southwest in our four-wheel-drive camper in search of stories and photographs —and," he adds, "I'm getting so I pick up material from washes or kick at an outcropping and remark, 'Looks like cutting stuff'."

The Carrolls reside in Hollywood and have traveled extensively in the Southwest.

## Desert Quiz

Here's *Desert's* monthly brain exercise. If it was criminal to be wrong, we would all be in jail, so do the best you can with them, and when you have finished you will have added to your store of knowledge about the Great American Desert. Even a tenderfoot ought to get 10 of them right. 12 to 15 is a good score, 15 to 18 excellent. Anyone doing better than 18 will be at the head of the Quiz class. The answers are on page 39.

- 1—In summer the desert visitor may encounter sidewinders—Sunning themselves at midday on the dunes..... Swimming in the water-holes..... In rocky crevices..... On the sand dunes at dusk.....
- 2—Fig Tree John, about whom Edwin Corle wrote a book, lived on the shore of—Great Salt Lake..... Elephant Butte reservoir..... Pyramid Lake..... Salton Sea.....
- 3—The astronomical name of the North Star is — Polaris..... Venus..... Jupiter..... Mars.....
- 4—Tallest tree native of the Southern California desert is — Smoke tree..... Washingtonia palm..... Ironwood..... Mesquite.....
- 5—Morenci, Arizona, Santa Rita in New Mexico, Ruth in Nevada, and Bingham in Utah, have one thing in common. They are the sites of —Irrigation dams..... Early southwestern forts..... Open-pit copper mines..... Rich gold strikes.....
- 6—Name of the Indian who instigated the revolt of the Pueblo Indians against the Spaniards in 1680 was — Geronimo..... Pope..... Estaban..... Mangus Colorado.....
- 7—One of the following desert watering places is not in Death Valley—Tinajas Altas..... Bennett's well..... Stovepipe well..... Furnace Creek.....
- 8—The old mining camp nearest to Davis Dam in the Colorado River is —Rawhide..... Searchlight..... Rhyolite..... Skidoo.....
- 9—Among the coniferous trees, the one best adapted to the land of little rainfall is—Pinyon..... Sugar pine..... Ponderosa..... Jeffrey pine.....
- 10—The dam in the Salt River which was named in honor of a president is—Hoover dam..... Coolidge dam..... McKinley dam..... Roosevelt dam.....
- 11—Lodore Canyon is in the—Colorado River..... Virgin River..... San Juan River..... Green River.....
- 12—Canyon de Chelly is in—Arizona..... New Mexico..... Utah..... California.....
- 13—The mine which brought fame to Henry Wickenburg was the — Fortuna..... Vulture..... Comstock lode..... Yellow Aster.....
- 14—Gecko is the name of a desert—Bird..... Lizard..... Rodent..... Insect.....
- 15—The color of the Chuperosa blossom is — White..... Blue..... Yellow..... Red.....
- 16—Fred Harvey's Phantom Ranch is in — Zion National Park..... Cedar Breaks National Monument..... Taos..... In the bottom of Grand Canyon.....
- 17—George Wharton James was an—Author..... Mining man..... Territorial governor of Arizona..... Scout with Kearny's Army of the West.....
- 18—Ashfork, Arizona, is the source of much of the Southwest's — Onyx..... Flagstone..... Quicksilver..... Turquoise.....
- 19—Most of the Kachina dolls sold in the Southwest are made by the Navajo Indians..... Hopis..... Mojaves..... Apaches.....
- 20—The state flower of Arizona is the — Saguaro..... Yucca..... Poppy..... Cliff Rose.....

Mrs. Beth Brakemeyer who wrote "Daddy of the Joshuas" in this month's *Desert*, was born in Nebraska and at 17 started her teaching career in the proverbial little red school house in a small town in that state.

There she met and married her school superintendent, quit teaching and migrated west with her husband. "This is when I began thinking of writing and suddenly the bug got me!" she recalled. But, raising a family and returning to the teaching profession made her writing career spasmodic at best. Last summer while attending Fresno State College she became a member of the Writer's Workshop where her interest in writing was rekindled.

\* \* \*

"Dreamers of the Mojave," in this month's *Desert*, was written by Kenneth M. Stewart, associate professor of anthropology at Arizona State College, and a graduate of the University of California at Berkeley.

The field trip to the Mohave Indians described in his story was made when he was a graduate student working on his Ph.D. in 1946. Since that time he also has done field work with the Papago Indians and has engaged in archeological excavations in Arizona.

\* \* \*

Joseph Schmedding, long time desert enthusiast and author, passed away at his home in Desert Hot Springs, California, on September 2. He was 70 years of age. His most recent *Desert Magazine* story, "Christmas in Keams Canyon," appeared in the December, 1955, edition.

\* \* \*

Miriam Anderson, author of this month's "Little Yellowstone" on the Salton Shores, is a long time resident of California's northwestern Colorado Desert.

"My unusual experiences on the desert include pack trips to San Geronio and San Jacinto peaks. Standing there gives one real perspectives! Then weathering the flood in Palm Springs in 1938 when I luckily had two gasoline camp stoves and was able to heat water for coffee and tea for people who had no heat; making personal friends with many of the Indians there; eating their acorn bread; exploring the mesquite hills; remembering the beauty of the old church in Palm Springs, and Aileen's library, both gone now. It was a much different town, indeed, and behind the bath house, where the two huge fig trees stood, there were but two trailers in 1934 and one of them was mine."

Mrs. Anderson now makes her home on Twin Creeks, in Old Waterman Canyon above San Bernardino.



# LIFE ON THE DESERT

## *Dreamers of the Mojave...*

The Mohave Indians near Needles, California, once a proud warrior race, are falling behind in the struggle to better their lives in the white man's world. A basic reason for this failure may be an ancient belief still prevalent in the conscious and subconscious manifestations of their ancient culture—that to succeed one need not work or train or learn—one merely need have the proper dreams.

By KENNETH M. STEWART  
Associate Professor of Anthropology  
Arizona State College

**I** SAT ON A rock, watching the flickering campfire of mesquite wood. To my right loomed the dark bulk of the truck. The Coleman lamp illuminated a small circle of sandy mesa beyond which lay utter blackness. The moon was a thin sliver, and the stars added little illumination. Save for the crackling of the fire, and the heavy breathing of my fellow anthropologists in the tent, the desert was still. Far away in town, a dog howled.

The desert was new to me, a city dweller, but I had vicariously anticipated this atmosphere for a long time, and now I was reveling in it.

It was a great relief to be camped on the clean desert after a miserable night in a flea-infested auto court on our arrival in Needles, California, for anthropological field work with the Mohave Indians. The court was near the switchyard, with its clangor and hissing, while traffic whizzed by on the nearby highway.

I despaired of further sleep, and dressed for a sunrise walk along the Colorado River, watching the reddening skies above the gray mountains to the east. Making my way through thickets of rushes, I watched the turbid, silt-laden stream flow relentlessly in its channel, eddying around sandbars, dallying in lagoons, and I thought of the days when broad-shouldered Mohave Indians, naked to a G-string, ferried their children and household goods across the river, pushing large pottery vessels before them as they swam.

The day before at the railroad station I spoke to stocky Mohave women in bright calico dresses, selling beaded curios. I learned from them that my best source of information would be the old chief, a man of more than 80 years, yet in full possession of his faculties and well-informed about the Mohave way of life in the old days.

An hour later I found this man.

"I dreamed that my spirit was floating in the sky, far above the clouds," he said in a gentle tone, as his bright eyes gazed beyond the river toward the jagged peaks, seeing things to which my own eyes were blind.



*Mohave Indian mother and child. From the C. C. Pierce collection.*

I was silent, not wishing to interrupt his flow of memory.

"Truly, it was a great thing. I saw two big hawks, flying swiftly through the air. That made me very happy. It meant that I would become a *kwanami*, a great warrior."

The days passed as I interrogated the old chief, attempting to draw out information about the former life of the Mohaves. This was never a difficult task for he spoke freely, and my pencil moved rapidly in taking notes.

I learned that before the wagon trains of the whites rumbled through Arizona, upsetting the ancient Indian way of life, the Mohave were known by other tribes as a nation of dreamers. The Mohave believed that to achieve attainment in life one must dream properly.

A Mohave must have the proper dreams to be successful as a medicine man, a warrior, a gambler, to acquire any desirable ability. And there was nothing a man could do to induce the right dreams. He either had them or he didn't.

Mohave dreams would baffle a psychoanalyst, since

they supposedly begin in infancy, or even before birth, while the unconscious embryo is yet in his mother's womb, or even earlier, while the soul of the future Mohave was with the gods at the sacred mountain north of Needles known as *Avikwame*, or Ghost Mountain.

This prenatal dreaming was in a sense predestination, since knowledge and skills were acquired through dreams and not by reflection, practice and hard work.

As I listened to the old chief, I concluded that the Mohave were so preoccupied with dreaming that they had little interest in material things, and this was reflected in a great indifference to the arts and crafts. Their basketry was sloppily executed and their pottery did not rise above the level of mediocrity. The simple rectangular house was constructed of logs, brush and mud, with a floor of dirt and an earth-covered roof, while during the steaming summer months the Indians moved out under ramadas, flat-topped shades without walls which permitted the free circulation of breezes.

Today, too, the Mohave show little evidence of a materialistic orientation. Many of them live in shacks on the outskirts of Needles, in an area often partially flooded by the river, and their yards are littered with tin cans, rusty jalopies, and other rubbish of western civilization. Meticulous housekeeping is rare among the Mohave.

Little time was lost from dreaming in making clothing. For men, the wardrobe consisted of breechclouts and fiber sandals; for women, a short skirt of fibers. Hairdress, too, necessitated a minimum of effort. Both sexes wore their hair long in back, with that of the women cut in bangs, while that of the men was sometimes rolled into "pencils" which hung down the back. On occasion the long hair was plastered with mud as protection against insects, suggesting the turbans of the Near East.

Even dreamers require nourishment, but the food quest along the lower Colorado was not an arduous one. In spring the mighty river, swollen by the melting snows of the Rocky Mountains far to the northeast, burst its banks and flooded the bottomlands. Then as the waters receded, the Mohave planted corn, beans and squash in the rich mud, and harvested the crops after their rapid growth under the fierce summer sun. Jackrabbits were hunted in the thickets along the river, fish were taken in huge basket scoops shaped like canoes and a few hunting specialists (who had, of course, dreamed their power over the game) went to the mountains in the vicinity

of present day Oatman and Kingman to hunt deer and antelope.

Government was a casual matter, and held little interest for the Mohave. The tribal chief was respected, but the great warriors, the *kwanamis*, were at the pinnacle of prestige in the tribe.

The only activity which ranked with dreaming in the Mohave conception of things was warfare. But dream-life and warfare were closely related—a man could not be successful in battle unless he had experienced the proper dreams for war. These *kwanamis* were the great men of the tribe. The Mohave enjoyed fighting, and terrorized neighbor tribes for hundreds of miles around, smashing their enemies with vicious wooden clubs shaped like old-fashioned potato-mashers. Periodically, bands of Mohave raiders departed on a grueling six day journey across the desert to descend on the Maricopa southwest of Phoenix, killing, scalping, plundering and capturing women and children for slaves.

Sometimes even marriages resulted from dreaming. If a girl and a young man dreamed of each other, it was regarded as an indication of the will of the god *Mastamho* that they marry. Marriage and divorce were extremely casual affairs, with a couple simply deciding to live together. The marital bonds were severed by the simple departure of either partner.

When the death of a Mohave approached, friends and relatives assembled and began an eerie wailing, which might continue for days, if death were slow in coming. The corpse was cremated on a funeral pyre, while mourners cast the possessions of the deceased into the flames. In former times, they were sometimes too precipitate in their actions, and there are reports of "corpses" suddenly sitting up in the midst of the leaping flames.

The death of the old chief had been anticipated after he had suffered a stroke shortly before my arrival at Needles. Relatives had been summoned from the Colorado River Reservation, 50 miles downstream at Parker, Arizona; the funeral pyre was ready beside the house, and ceremonial replicas of the ancient weapons, the war club, the long bow and the feathered pike, had been prepared. But the patriarch's vitality was great, and he fooled the mourners. By the time of my arrival, he was able to sit up and talk for hours at a time.

Mohaves, like so many other Southwestern Indians, fear the dead and anything connected with death. After a person has rejoined the gods at Ghost Mountain, his name should never again be spoken and it is a great insult to a Mohave to mention the names

of his dead relatives. The Mohave resent having their pictures taken, fearing that someone may see the photo after their death.

On one occasion, my fellow anthropologists and I accompanied some Mohaves to the site of old Fort Mohave, on the Arizona side of the river. Walking through the thicket in single file, we were spread out over a distance of 30 or 40 yards. I began to whistle, and a Mohave woman in the rear of the column became frightened.

"I hear a ghost," she cried. It seems that, in Mohave belief, ghosts whistle, and to hear whistling at night is particularly terrifying.

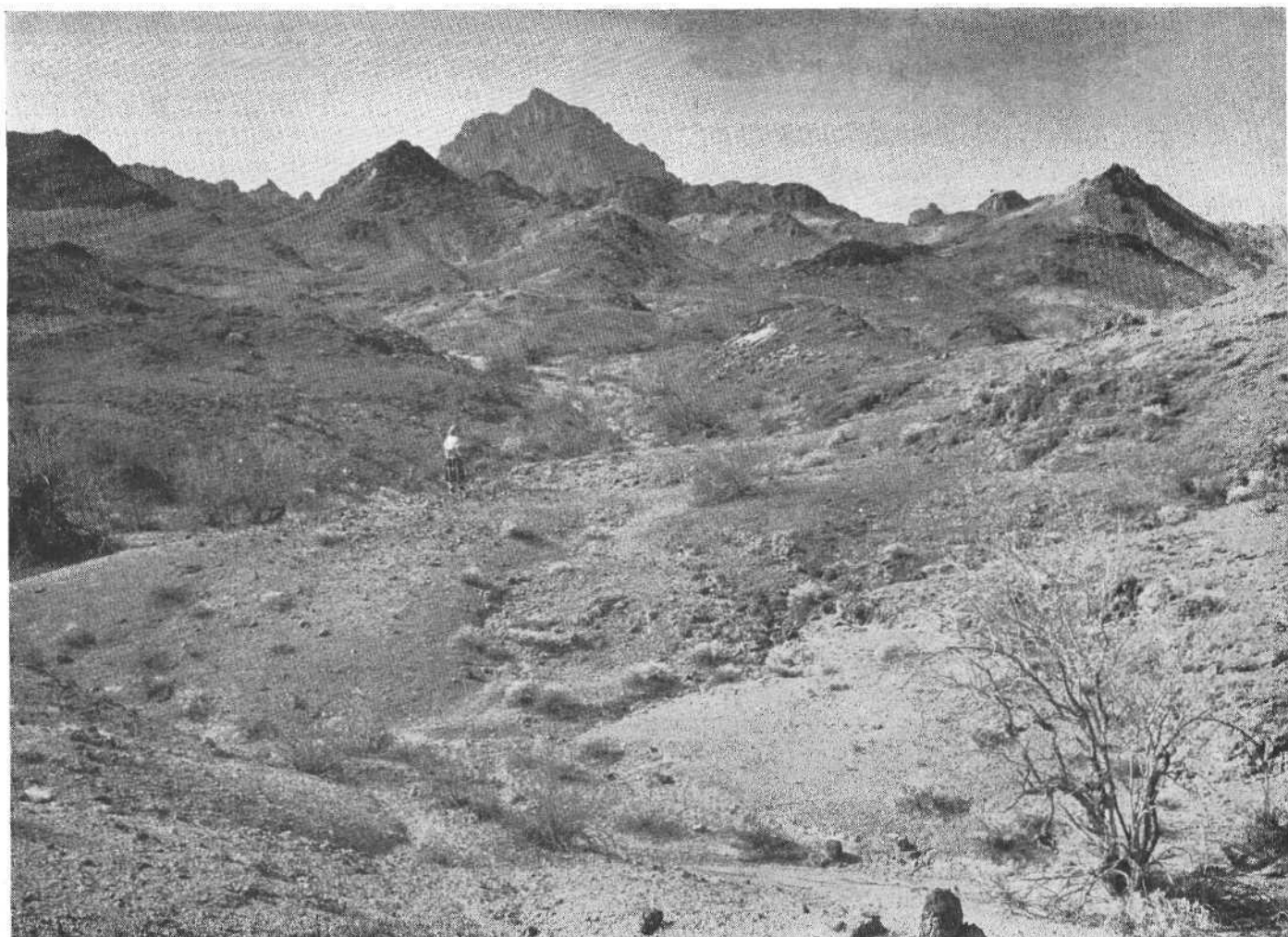
Mohave life today goes on at a leisurely pace, with much free time for dreaming. Employment for many of the men is not steady, and they lounge on the grass in back of the railroad station at Needles, perhaps dreaming of the old days and the god *Mastamho*. Many of them are rather bitter about the white man's encroachment upon their land, and his discrimination against the descendants of a tribe once generally feared and respected. And discriminated against they are. For example, they are required to sit in a Jim Crow section at the local theater. In a certain department store in Needles, the Mohaves trust only one clerk, and will wait silently until he is free to wait on them.

Approximately 400 Mohaves live in and near Needles, while 600 reside on the Colorado River Reservation. The ones on the reservation farm irrigated lands and are more progressive than the die-hards at Needles, who insist on staying where they have always lived, even though it may mean poverty and hardship for them. The old chief once said to me, "That's like a prison down there at Parker." But it seemed to me that those at Parker were happier and more prosperous by having adjusted to altered conditions instead of clinging tenaciously and futilely to a vanished past.

Change is inevitable and is accelerating. In 1956 Mohave children attend school, play football, watch movies and young men are drafted into the armed forces. Mohaves drive automobiles, use modern methods of farming and work in the railroad shops or on the tracks at Needles. Warriors no longer campaign against the Maricopas.

But dreams persist, in spite of a nominal acceptance of Christianity by many of the Mohave. The old people are nostalgic for a time when the river was wild and unhampered by dams, when the white men were not yet numerous in the region, and when the desert was not scarred by the material things of "civilization."





*Jasp-agate, carnelian and some fire agate are found in this ruggedly beautiful volcanic mountain-desert country in the eastern Palo Verde Mountains. Palo Verde Peak, the towering volcanic neck, background, is a landmark for this part of the desert.*

# Gem Stones of Palo Verde Pass

By HAROLD O. WEIGHT  
Photographs by the author  
Map by Norton Allen

**T**HE SUN was low one afternoon last May as Lucile and I followed the Palo Verde-Ogilby road from the expanding cultivated lands of the rich Colorado River valley into the eastern end of California's barren Palo Verde Mountains. The slanting light and lengthening shadows accentuated the rich colors and fiercely jagged outlines of the range and made even more spectacular the great reddish triangle of Palo Verde Peak, a

volcanic neck which is the landmark of this part of the desert.

These Palo Verdes were the mountains which, above all others, caught the fancy of John S. Brown during his reconnaissance of the Colorado Desert for the U. S. Geological Survey in 1918. "Nowhere in all the ranges of the region were desert colors seen more beautifully developed," he wrote, "and the trip through these mountains is decidedly worth while for that alone."

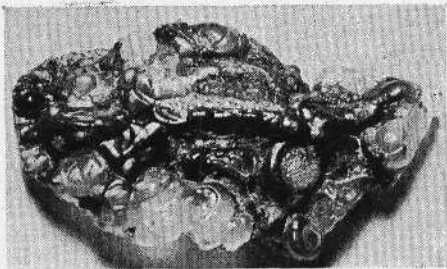
Considering how rugged the road through the Palo Verdes must have been at that time, Brown's suggestion was high praise for any scenery. But

Less than a mile from the soon-to-be-paved Palo Verde Pass road in Imperial County, California, is an ideal collecting area for beginning rockhounds. Here is an endless field of botryoidal chalcedony—some of it with thin layers of iridescent limonite which produces the much-prized fire agate.

I can second it heartily, although I must confess that in my memories of my first trip through these mountains in 1931 I had little time to admire scenery.

There had been much rain in the country and little auto travel, so perhaps conditions then were exceptional. My father, Donald Gorton and I had been exploring the outliers of the Chocolate Mountains, looking for Pegleg Smith's lost black-coated golden nuggets. That was my first lost mine hunt and I was naively confident of success.

We did not locate a gold-plated black butte on that trip or on any of



*Botryoidal chalcidony with iridescent limonite layers—the so-called “fire agate”—from this field in the eastern Palo Verdes.*

the later journeys I have made through that country since, however.

When we ran out of time on our Pegleg hunt we returned to the coast by way of Blythe, detouring at Midway well for a brief visit to the old Paymaster mine. The veteran caretaker at the mine assured us we would never make it through Palo Verde Pass.

It was rough going, but we finally came through with tires badly shredded by the rocky ruts along the way.

Today this same canyon route has been so bladed, filled, cut and straightened it hardly would be recognized as the same road. When Lucile and I traveled this way early in May we found no obstacles except the dust and washboard that are characteristic of gravel roads.

On this trip we were not after black gold. We were hunting a gem field Ed Rochester had told us about. Gem rocks you can find in the Palo Verdes, but the cutting material in this end of the range was as elusive as Pegleg's nuggets. I had collected beautiful stones in the western and southwestern sections of these mountains since the late '30s. Since the same andesites and rhyolites are found throughout the entire range, I was confident that rockhound rocks also were available on the northeastern and eastern sides.

But this was my fourth effort to find them in any quantity.

Once when I mentioned it to Ed Rochester, he confirmed my notion that gem rock occurred there. But he also let me know that I was a Johnny-come-pretty-lately. An area in this part of the Palo Verdes known as Poker Gulch had been worked by some of the first rockhounds since the early 1920s. Tom Worthington, who interested Ed in the “pretty rock business” had long ago shown him bookend jasp-agate and beautiful red chalcidony among the buttes around Poker Gulch, but this field was exhausted.

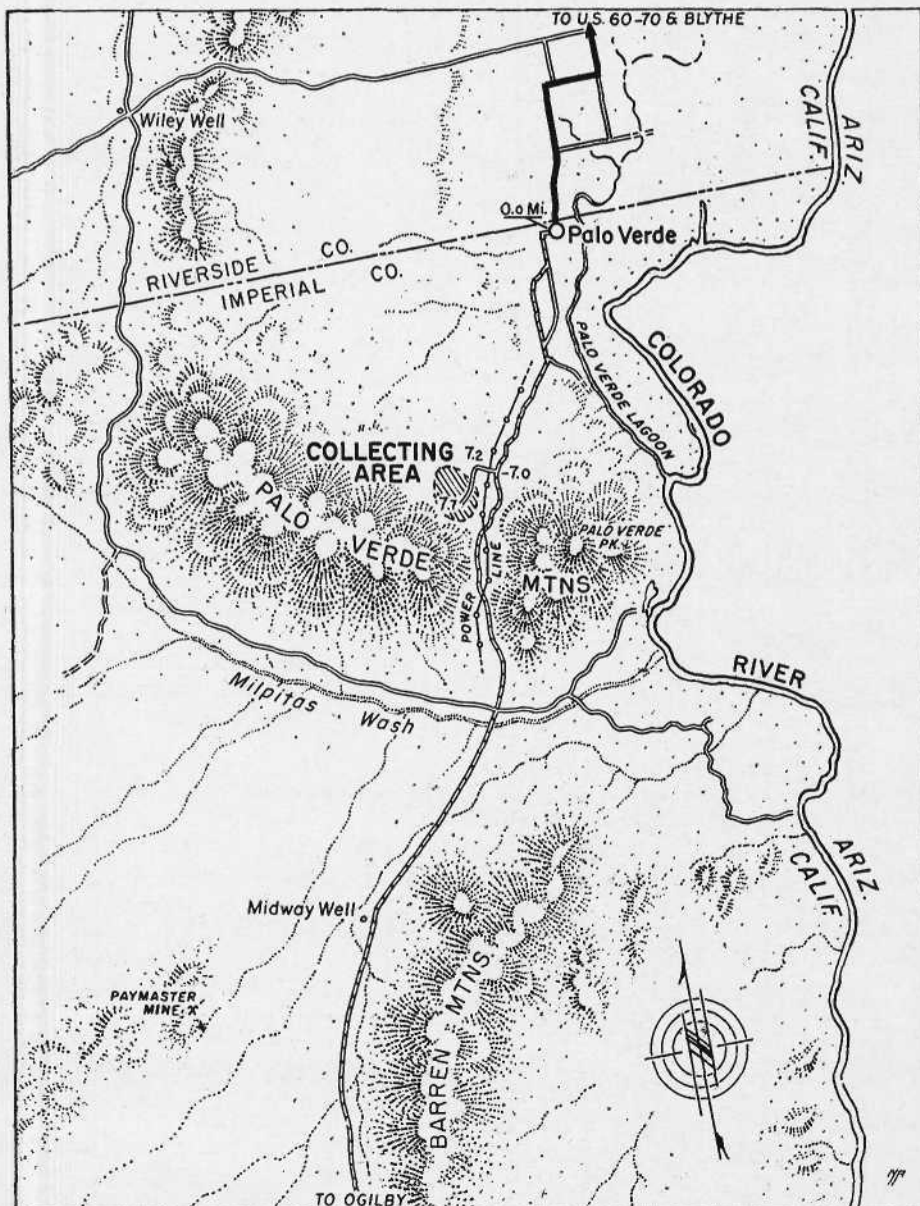
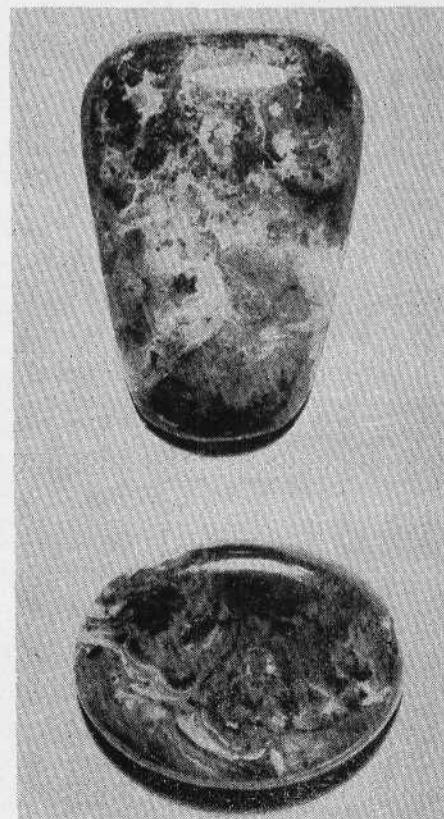
“I can give you directions to a better field, almost in sight of the road. I was in there just a few days ago and there is a lot of colorful jasp-agate—and some fire agate,” Ed told us.

He led us around to the back of his house where, under a shade tree, he had a three-auto-tire gem tumbler rumbling steadily away.

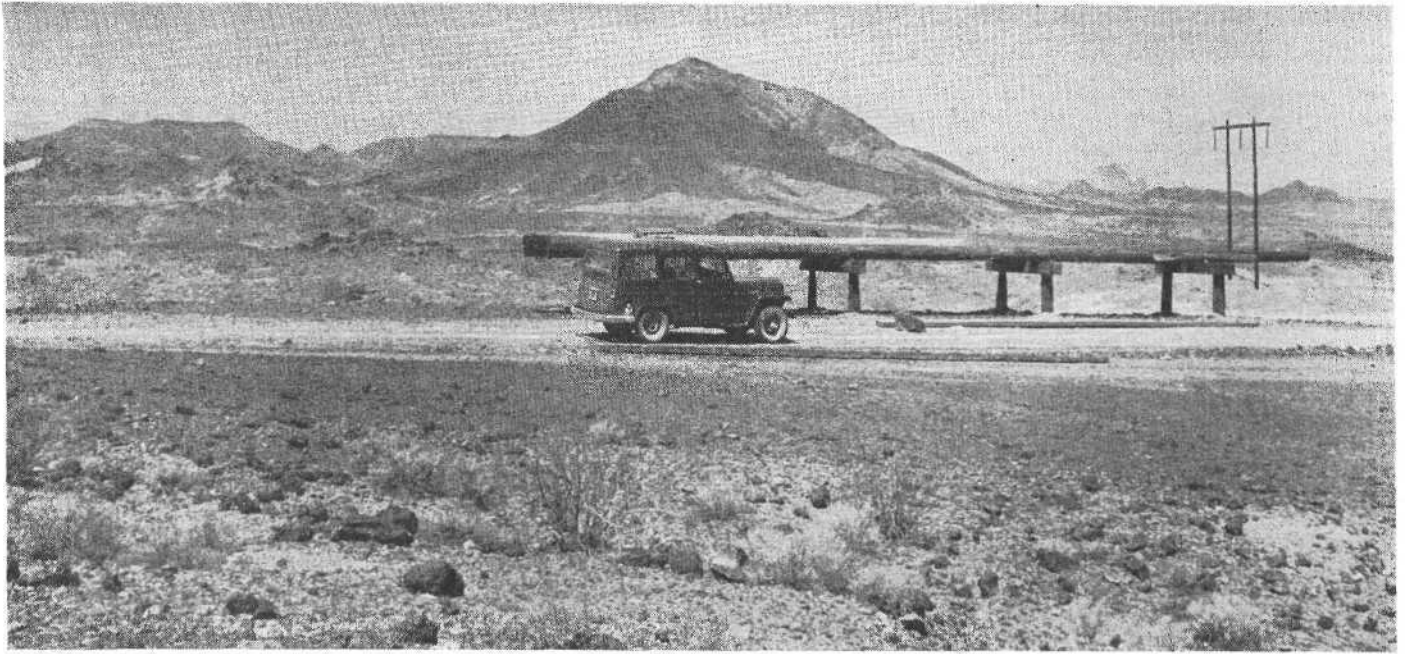
“One for coarse, one for fine and one for polish,” he explained, stopping the contraption to pull some grit-covered lumps from one of the tires. He washed them in a bucket and handed them to us. They were striking pieces, with mossy splotches of red, white, black and gray.

“From the field off Palo Verde Pass,” he said. “Of course they're

*Red, gray, white and black moss-splotched cabochons cut from material found in the Palo Verde field.*







*The turnoff from the Palo Verde-Ogilby road to the field is at this rack of spare poles for the powerline through the mountains. Familiar landmarks of the Palo Verdes are the Flat Tops, left, and Double Butte, right, seen from the east side of the mountains.*

just started. Give them 300 hours of tumbling and they'll be like mirrors." Out of another cache he brought a piece of fire agate that promised to make a fine gem. "That's what I went in there after," he admitted. "I didn't find much, but this shows it's there."

Ed's directions gave a landmark for the turnoff from the Palo Verde-Ogilby road—a rack of spare poles for the big poleline—just seven miles southwest of Palo Verde and on the right (northwesterly) side of the road. I remembered seeing those poles a number of times, and had no difficulty locating them. We turned right, following the auto track which led from the road past the poles, went on across the pole line and almost immediately turned left again on a wavering trail that led back among the low hills and shallow washes. Ahead we could see the dark cross ridges that Ed said carried the chalcedony, carnelian and fire agate. When we stopped for a moment and hunted the rock surfaces around us, we found a great scattering of small pieces of agate which would cut into good cabochons.

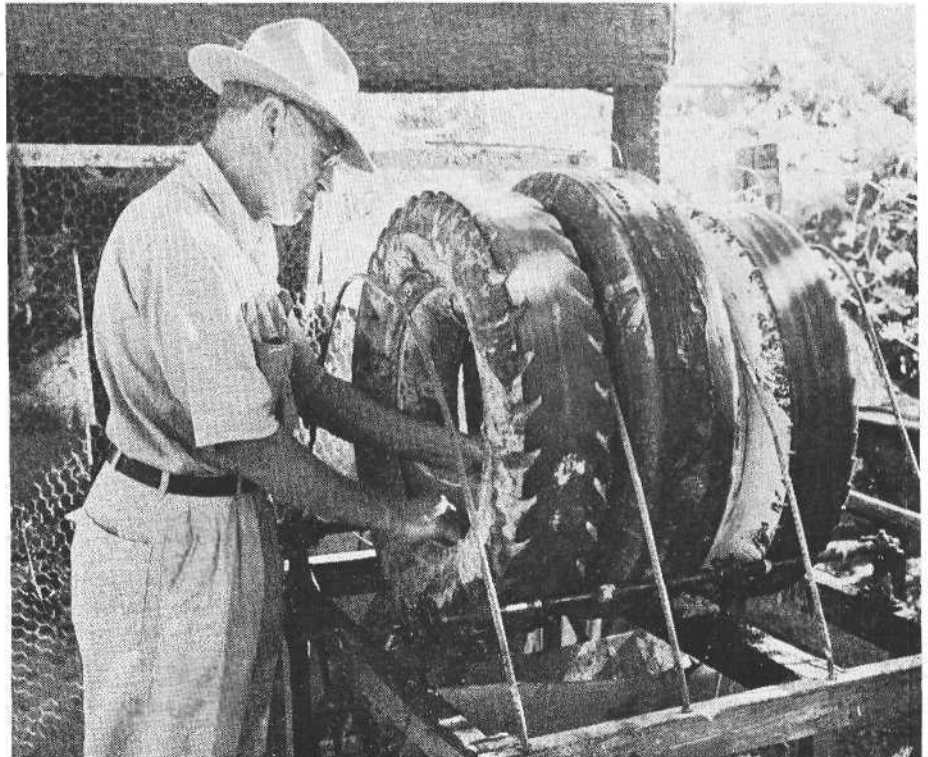
It was nearly dark, so we pulled up over the steep pitch of the first ridge and down onto a smooth little flat that would make a perfect campsite. We didn't set up camp, but took to the surrounding buttes, washes and hollows and collected until it was too dark to see. Then, regretfully, we went about the necessary business of getting supper and preparing our sleeping bags.

The country, once we were away from the canyon road, proved surprisingly open and a four-wheel-drive vehicle could go almost anywhere. The vegetation was scant—with 10 or 12 foot ironwoods and palo verdes in the shallow washes, sparse creosote, burroweed, desert holly and krameria on the low hills. Bits of dead wood from the ironwoods furnished ample fire-

wood, but we were glad that we had brought along a number of empty flat-tended milk cartons for kindling.

Except for nighthawks, animal life was as scarce as vegetable. The nighthawks were all around us; from hill and ridge and valley we could hear their eerie vibrant throbbing—at times sounding like a small boy's imitation of an Indian war whoop. Occasionally,

*Ed Rochester tumbling some of the Palo Verde material in his three-stage tire-tumbler at Winterhaven.*





*Lagoon at Palo Verde, only seven miles from the collecting area, offers a fantastic contrast to the barren volcanic buttes of the Palo Verde Mountains.*

from a greater distance, came the soft mourning who-whooo of the doves and once — past midnight — the high yipping of a coyote.

We were up long before sunrise, but when the first rays hit us, we knew that it was going to be a day too warm for rock collecting. We decided that we would hunt until it got hot, then leave. As usual, however, our rock-hunting instincts got the better of our judgment, and we were licking specimens—particularly the chalcedony to see if it carried any fire—until the stones started sizzling and the sweat in our eyes made it impossible to study the specimens.

We found an endless amount of botryoidal chalcedony — clear, carnelian and dark brown in swirls and mixes that will cut into beautiful stones. In a few of the pieces—a very few—we found the thin layer of iridescent limonite which makes the stone called fire agate. And we found plenty of mossy and patterned agate and jaspagate of cutting quality. Some of it was in large pieces, but these fre-

quently were penetrated with manganese ore psilomelane. Where it is solid enough, this will polish too, but often it seems to make the silica around it sugary.

We also found many location monuments scattered through the area. Some of them, on manganese deposits, showed that some assessment work had been done. Even these, however, did not show recent development, since manganese is a war metal, and such marginal deposits pay only under war or stockpiling conditions. The monuments in the chalcedony areas, apparently filed on that type of material, were without exception out of date and showed no evidence that at any time had any discovery work or assessment work—both necessary to make the claim valid—been done.

With our collecting bags well filled and our canteens almost empty, we left the Palo Verde field shortly after noon, promising ourselves that we would be back as soon as cool weather made rockhunting here again both pleasant and safe. When we reached

the bladed Palo Verde-Ogilby road we had to stop to allow two cars to pass before we could enter it—a startling contrast to that time a quarter of a century before when we had not met or been passed by a single car during more than two days we were on it. Plans have been made to pave all this road between Palo Verde and Imperial valleys. Those of us who like the wild desert back trails are bound to view such “improvements” with mixed emotions. We are glad that desert lovers who could not otherwise make the trips will have wonderful new country opened to them. We shudder at the thought of sharing once-peaceful desert with 80-mile-an-hour tourists and snorting diesels.

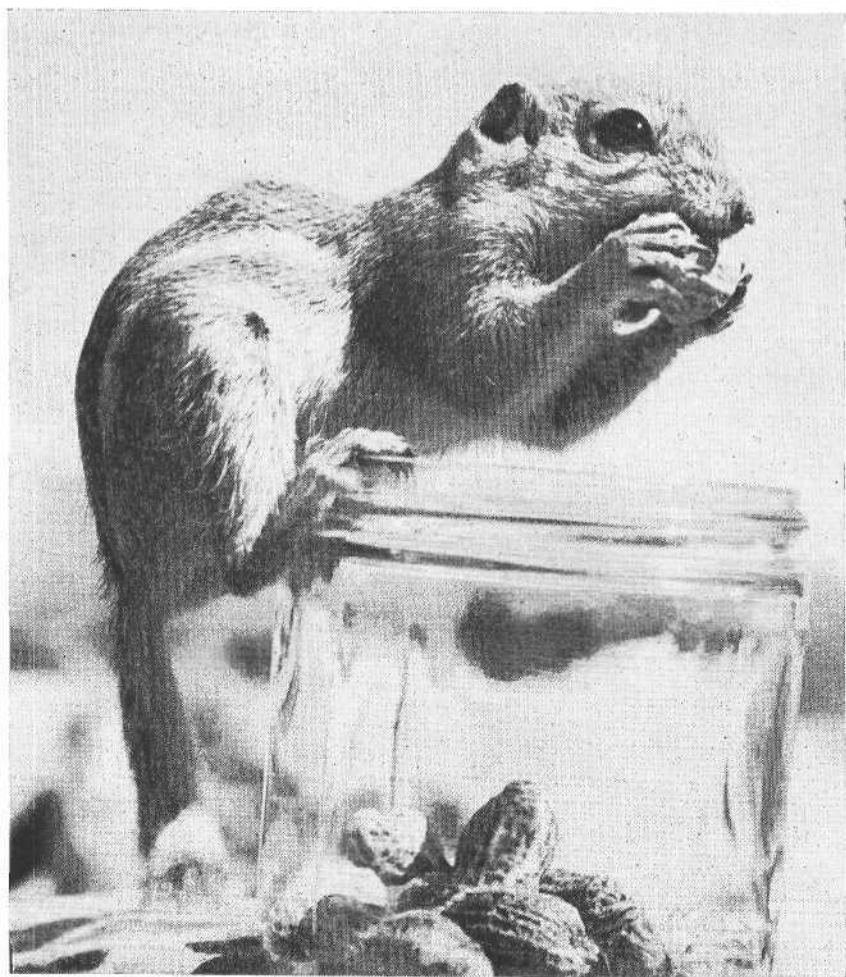
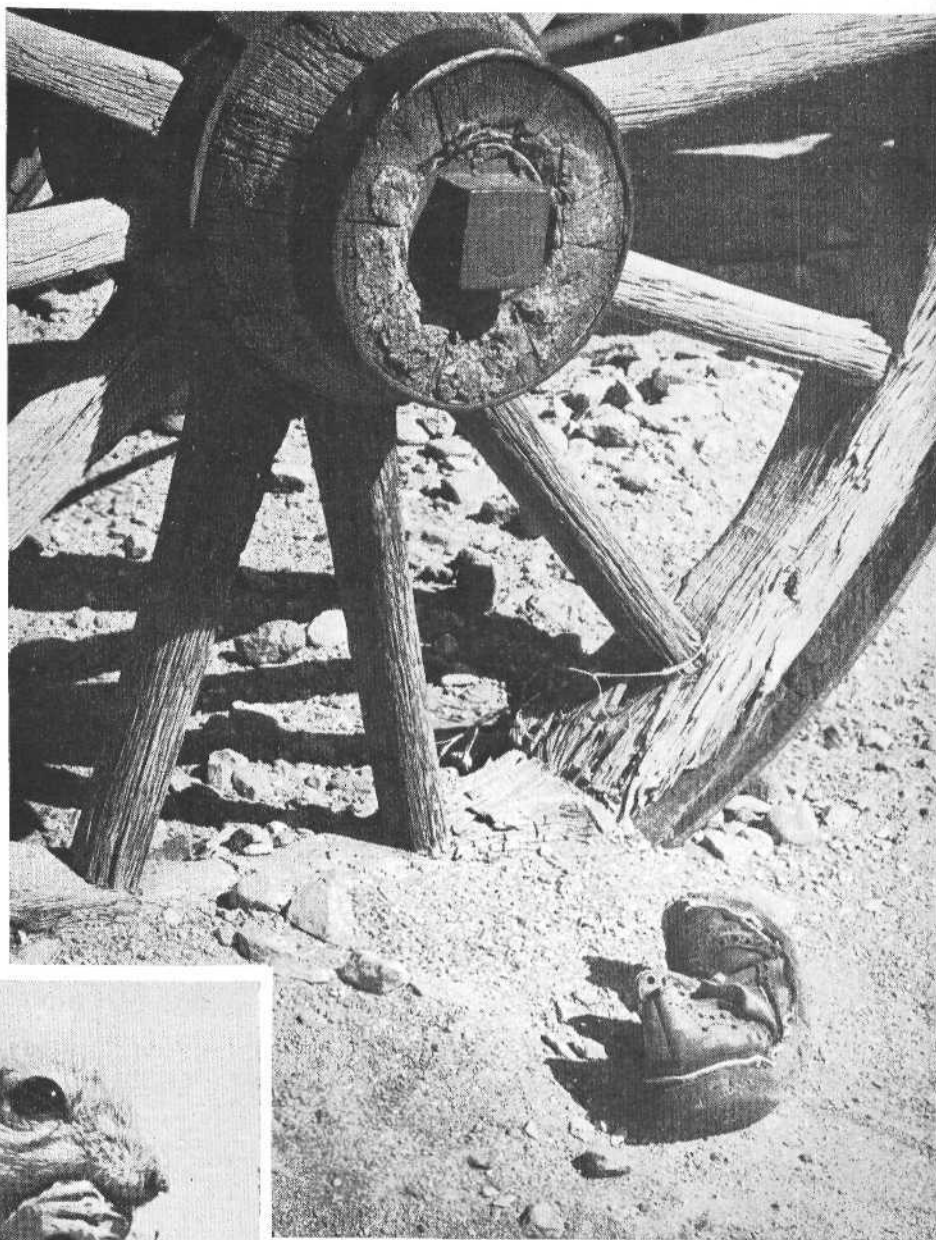
But there is one saving grace for which we are endlessly thankful. The wrong kind of tourist almost invariably sticks tightly to paving. So as long as it is connected to the main road only by twisty trail, the rock field off Palo Verde Pass will remain a peaceful hunting ground no matter what is roaring by less than half a mile away.



# Pictures of the Month

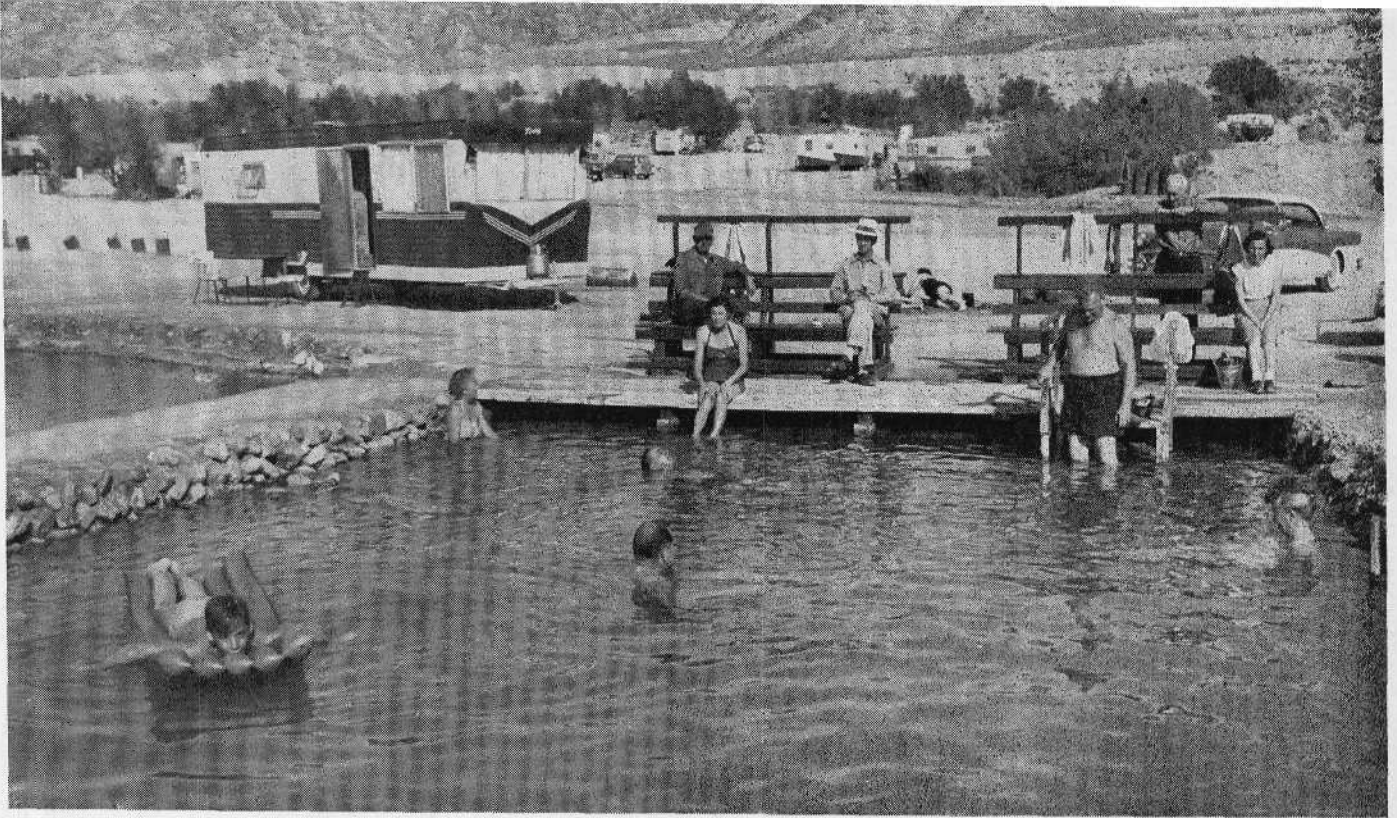
## Silent Wheel . . .

Frank Burt of Oakland, California, wins first prize in this month's contest with this photograph of a Death Valley borax wagon wheel and an old shoe. Years ago this wheel and others like it rolled over the desert freight trails—pulled by the famed 20 mule teams. Burt used a  $2\frac{1}{4} \times 3\frac{1}{4}$  Graphex camera with a five-inch Ektar lens;  $1/100$  second at f. 16; Verichrome Pan film.



## Snack Time . . .

This ground squirrel has no winter food problem as long as nice people put peanuts in jars for him. Second prize photograph was made by Addie T. May of El Cajon, California. She shot this picture with a Rollicflex camera on Super XX film;  $1/500$  second at f. 6.3.



*Health and relaxation seekers enjoying the water in one of the pools at Hot Mineral Spa.*

## 'Little Yellowstone' on the Salton Shores

Fast growing in popularity with trailerites and campers is America's youngest and most unique watering place, Hot Mineral Spa—or Little Yellowstone as its semi-permanent residents call it. Here you can combine two delightful vacations in one—a true desert outing in a beautiful setting overlooking the blue waters of the Salton Sea; and an inexpensive visit to a spa whose mineralized waters rival those of the world's most famous watering places.

By MIRIAM R. ANDERSON  
Map by Norton Allen

CALIFORNIA'S Salton Sink is a country rich in spectacular phenomena. There are the volcanic deposits of basalt, commonly called volcanic glass, at the south end of the Salton Sea; there is the amazing shoreline of the ancient Cahuilla Sea winding along the foothills; there are the fishtraps in this shoreline which scientists tend to believe were house foundations of the tribesmen who dwelled on Cahuilla's fresh water shores; there are Indian petroglyphs on the boulders; palm oases in the desert mountain canyons; faint remains of pioneer wagon trails; symmetric and proud date palm orchards; the All-American

Canal; and the great inland Salton Sea itself.

This 234-feet-below-sea-level basin was filled in 1905-06 when the Colorado River broke through its banks near its Gulf of California delta. The 40-mile-long sea is paralleled by the San Andreas fault which accounts for much of the geologic phenomena in the area, including the remarkable geyser midway down the eastern shore of the sea near the base of the Chocolate Mountains. It is known today as Hot Mineral Spa or Little Yellowstone.

Hot Mineral Spa did not exist prior to 1939. The land in this vicinity was no different than the other desert acres

stretching away from the sea. It was dotted here and there with a ranch, a railroad worker's shack, a gas station.

Construction of the All-American Canal which was to bring irrigation water from the Colorado River to the Coachella Valley was underway and early in 1939 the V. R. Dennis Co. of San Diego began drilling a well about 30 miles east of Mecca from which it hoped to obtain water needed to wash construction gravel.

At 305 feet a high pressure flow of 174 degree Fahrenheit water was struck. Geologists hastily concluded that the well had tapped water captured in an arm of the fault. But, this water was too highly mineralized for washing gravel and the geyser was capped and abandoned. The canal workers obtained their water from other sources and soon moved on.

The land around the well returned to its quiet, peaceful ways and soon everything was as it had been before, except for the small mountain of gravel left by the canal builders, the canal itself and its paralleling road—and the deserted well.

But, Nature was not to be denied. The scalding, mineralized waters from the subterranean reservoir ate through the well casing and again broke to the surface at the rate of 25 gallons per second. It rolled off across the desert unhindered, toward the Salton Sea a few miles away. Where it collected in pools it coated the rocks and sand with a rainbow of colors. Algae grew



in some of these pools, adding a new range of color to their banks.

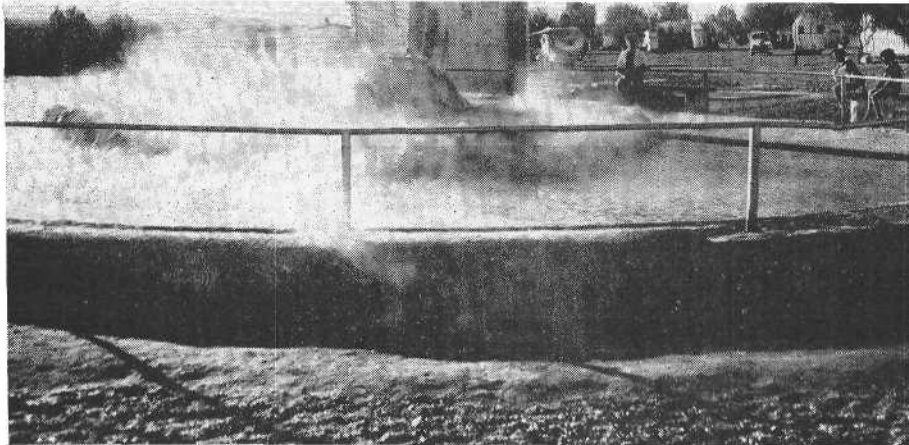
Rockhounds determined that the well flowed aragonite in solution (*Desert*, August '46) and all objects in the path of the well stream—from mosquitoes to tree limbs—were encrusted with beautiful crystals.

Chemical tests showed the water to be richer in mineral content and carbon dioxide than any spa water in the United States excepting those in the Yellowstone National Park area.

Here then was mineral water rivaling that of Spa Royat in France; Badenauheim in Germany; and Marianbad in Czechoslovakia. Here was water superior to that which the royal heads of Europe had paid princely sums to use. Famous carbon dioxide spas in our country whose waters were comparable to the Salton Sink's geyser included Saratoga Springs in New York and Thermopolis in Wyoming, both state operated, and some springs at Yellowstone which are, of course, federally controlled. And here on the desert it was flowing unused and wasted into the sands—unwanted except by the small group of rockhounds who occasionally visited the well to place objects in its stream and return a few months later to retrieve their newly "petrified" curios.

Here at Hot Mineral Spa water was steaming up out of the ground in an entirely different setting—the raw desert, sparsely populated, beautiful, silent.

Biggest question mark to potential developers of the spa was not the quality of the water, which was deter-



*Bubbling out of the earth at 174 degrees Fahrenheit, the highly mineralized water runs from this fenced pool to the bathing ponds below.*

mined to be excellent for health bath purposes, but its quantity. Would the flow continue, or would it dribble away?

While this was being considered, the vanguard of that great army of trailerites who are today so numerous in the Desert Southwest, discovered the hot springs.

They camped nearby and bathed in the little pools below the well. From the vivid walls of the ponds, strikingly similar to those at Yellowstone, the name Little Yellowstone was derived.

The bathers found relief from pains of arthritis and rheumatism. This news spread and gradually a little, semi-permanent settlement of trailers, tents, cars and trucks came to life at the spa. The carefree desert camp life, streamlining living to the bare essentials, accomplished for the spirits of the campers what the hot baths were doing for their bodies.

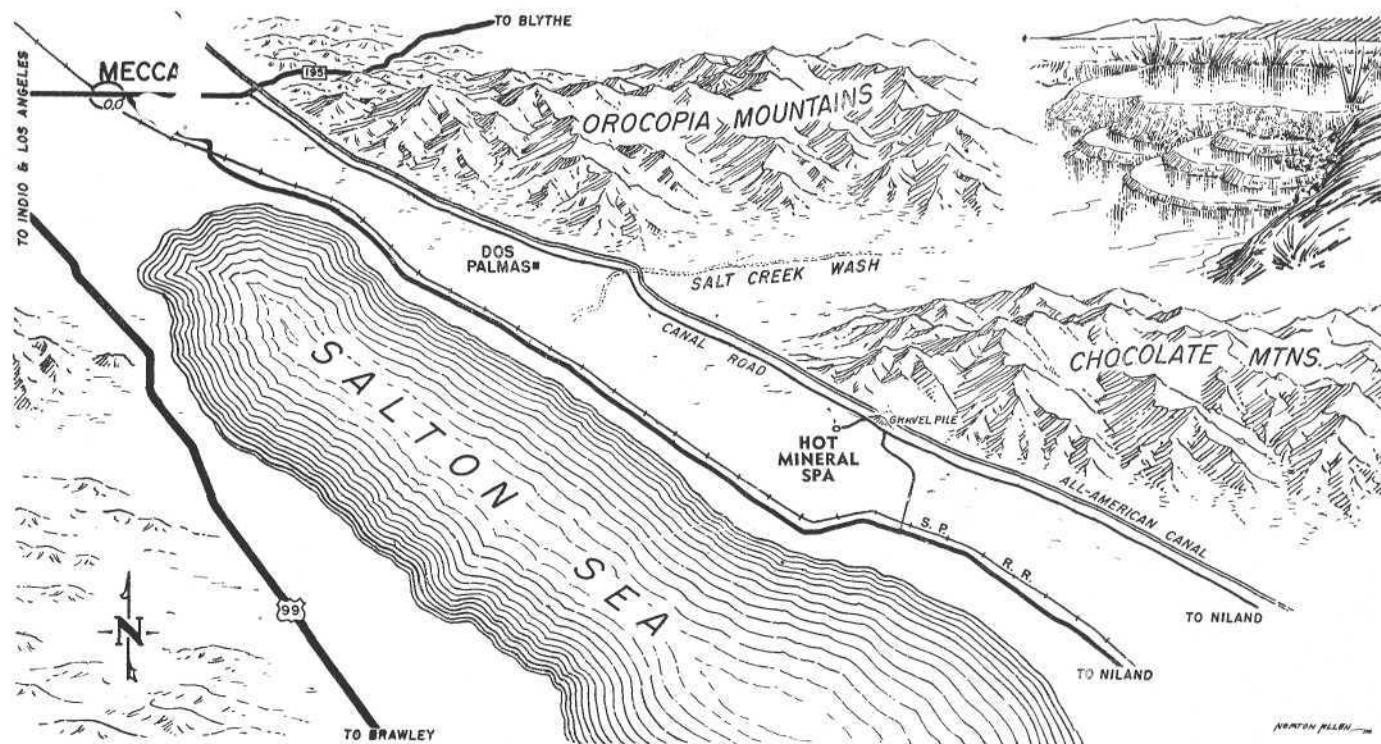
They found here what I like to call

"the peace of the real, old time desert." They lopped off the frosting of city living and took up modern day pioneering. Many of these first visitors still live at Hot Mineral Spa.

Today the spa is fringed with modern trailer homes. Propane gas has been installed by the property's present owner, Theodore Pilger, and he is making plans to bring electricity to the spa. A small admission fee is charged to enter the area and there are available here a few cabins which rent at moderate prices, but the use of the hot mineral waters is freely included. "This is the handiwork of God," says the owner.

Hundreds come weekly to see the geyser, picnic, take steam baths in the waters. The pools have been dammed and deepened and generally improved for bathing.

Hot Mineral Spa is four miles from the Salton Sea on a rise resembling a balcony in a great amphitheater. From it can be seen the magnificent pano-



rama of the blue waters of the sea and the purple mountains beyond. Behind the spa is the backdrop of the beautiful, eroded Chocolate Mountains and within shouting distance is the All-American Canal where fishermen catch catfish and bass.

The temperature and output of the

water — 90,000 bathtubfuls a day — has not varied in the last 16 years. Is this Ponce de Leon's Fountain of Youth? Some of the ardent Hot Mineral Spa dwellers would call it that, but most affectionately refer to it as their Little Yellowstone.

To reach Hot Mineral Spa drive

southeast from Mecca on State Highway 111 28.8 miles to the spa junction which leads off to the northeast. This junction is 1.8 miles southeast of Pope Southern Pacific railroad siding. Traveling northwest, the junction is 14.6 miles from Niland and 2.7 miles from Frink siding.

## '49ers Announce Plans for Eighth Annual Death Valley Encampment

Twenty featured events including conducted tours, campfire meetings and square dancing along with special firearm, mineral and art exhibits are included in the program recently announced for the November 9-12 Death Valley Encampment. Sponsor of the event is the Death Valley '49ers, a non-profit organization headed this year by Mrs. George Palmer Putnam.

The general public is invited to attend the admission-free Encampment which will be the eighth annual affair designed as a living tribute to the pioneers who first came into this fascinating area.

Those planning to attend were reminded to come prepared for fun and overnight camping. Casual clothing is the order of the day and duffel, containers, dishes and food as well as wood if you camp out should be provided by individuals attending. Wood supplies are limited. Water is available.

The nights are cool and ample bedding is recommended. Trailers are invited to bring their mobile homes to the trailer camp area.

Here is the program for the four day event:

### Friday, November 9

**2:30 p.m.—CONDUCTED TOUR.** Tour of lower valley, starting at Government Center. Dr. Thomas Clements and Fred W. Binnewies, Supt., Death Valley National Monument.

**7:30 p.m.—CAMPFIRE at the Sand Dunes.** Community Sing led by Harold Hodge, accompanist, Mrs. S. R. Broadbent; "Death Valley Tales," Ardis M. Walker. Mrs. George Palmer Putnam, President, Arthur W. Walker, Master of Ceremonies.

**9:15 p.m. — SQUARE DANCING** at Stovepipe Wells. Walter Abendroth, Caller.

### Saturday, November 10

**8 a.m.—ARTISTS' BREAKFAST.** Price \$1.50. At Furnace Creek Golf

Course. The West's noted artists in person. John W. Hilton, Chairman.

**10 a.m.—CONDUCTED TOUR.** Tour of valley, starting at Government Center. Dr. Thomas Clements and Fred W. Binnewies.

**12 noon—CHUCK WAGON LUNCHEON,** Price \$1.50 at Stovepipe Wells Hotel.

**1:30 p.m. — INDIAN DANCES at Stovepipe Wells.** Performed by the Boy Scouts of the Navajo Lodge of the Order of Arrow Honor Camp Society. Guy E. Reide, Scout Executive.

**2 p.m.—BURRO FLAPJACK SWEEPSTAKES** at Stovepipe Wells. The desert's most entertaining feature, with old time prospectors participating in the most novel race of all time. Paul Palmer, Chairman.

**7:30 p.m. — CAMPFIRE at Furnace Creek Ranch.** Community Sing led by Harold Hodge; accompanist Mrs. S. R. Broadbent, North American Chorus, Robert Norris, Director. "Death Valley Tales," Hon. Charles Brown, State Senator. "Twentieth Century in Death Valley," Hon. John Anson Ford, Supervisor, Los Angeles County. Mrs. George Palmer Putnam, President, L. Burr Belden, Master of Ceremonies.

**9:30 p.m. — SQUARE DANCING** at Furnace Creek Ranch. Walter Abendroth, Caller.

### Sunday, November 11

**7 a.m. — PROTESTANT Sunrise Church Service** at Desolation Canyon. Special music by the North American '49ers Chorus, led by Robert Norris, Director. Chaplain James L. Carter, Naval Ordnance Test Station, China Lake, will give the sunrise message. George W. Savage, Chairman.

**7 a.m. — CATHOLIC MASS** at Furnace Creek Inn Garden. Rev. Sid-

ney A. Raemers, Ph.D. Charles A. Scholl, Chairman.

**8:30 a.m.—Photographers' Breakfast.** Price \$1.50 at Furnace Creek Golf Course. Presenting outstanding photographers of the West with their own special entertainment. Floyd B. Evans, FPSA, Chairman, Charles J. Norona, APSA, Co-Chairman, Leo S. Moore, APSA, Co-Chairman.

**10:30 a.m. — CONDUCTED TOUR.** Tour of valley, starting at Government Center. Dr. Thomas Clements and Fred W. Binnewies.

**3 p.m.—VETERANS' DAY MEMORIAL SERVICE** at Furnace Creek Inn Garden, North American Chorus. L. Burr Belden, Chairman, James B. Nossner, Co-Chairman, 25th and 27th Districts, American Legion.

**4:30 p.m.—PAINTING DEMONSTRATION** at Furnace Creek Inn. John W. Hilton.

**7:30 p.m.—EVENING ASSEMBLY** at Furnace Creek Ranch Airplane Hangar. Kodachrome Show, Southern California Council of Camera Clubs; pictorial and desert photography, and National Park Service Naturalist — "Animals of Death Valley." Camp stools necessary to insure best view. Community sing led by Harold Hodge; accompanist, Mrs. S. R. Broadbent. Mrs. George Palmer Putnam, President, Floyd B. Evans, FPSA, Chairman and Master of Ceremonies, Charles J. Norona, APSA, Co-Chairman, Leo S. Moore, APSA, Co-Chairman.

**9:15 p.m. — SQUARE DANCING** at Furnace Creek Ranch. Walter Abendroth, Caller.

### Monday, November 12

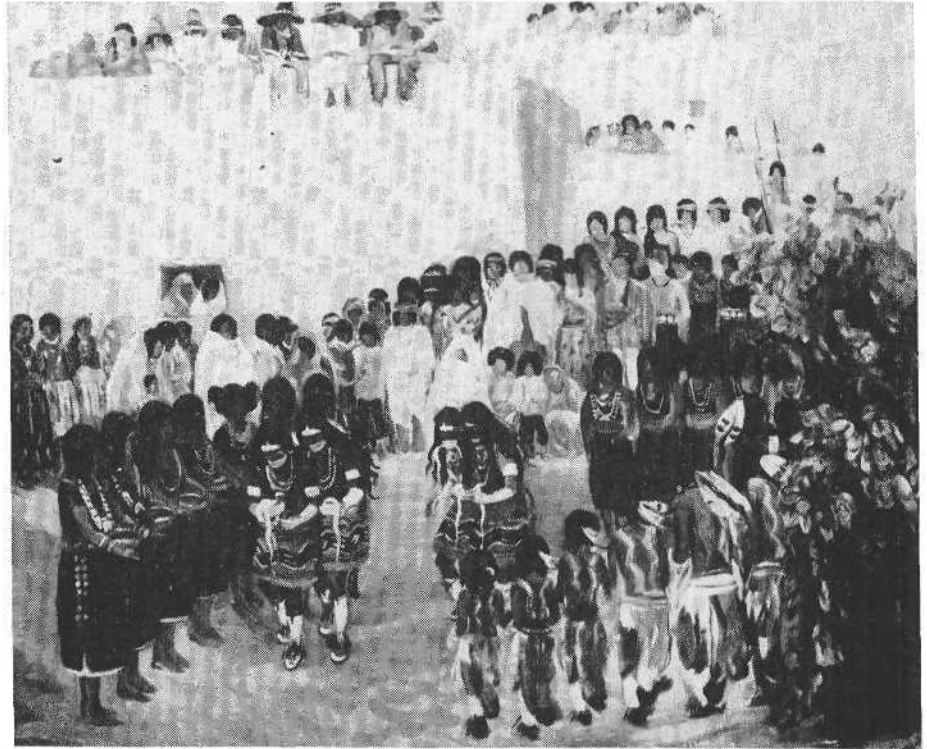
**8 a.m. — AUTHORS' BREAKFAST.** Price \$1.50 at Furnace Creek Ranch Golf Course. Talks on lore and lure of the Valley by well-known authors who will autograph their books; poetry, science and fiction. John D. Henderson, Chairman.

Those wishing to join the '49er organization can do so by sending annual dues of \$2 to: Death Valley '49ers, 601 Hall of Records, Los Angeles 12, California.





*Olive Rush*



*"Snake Dance at Walpi," an Olive Rush painting used to illustrate Erna Fergusson's book, "Dancing Gods."*

## *Olive Rush, Pioneer Artist of Santa Fe*

Santa Fe, New Mexico, is the recognized art capital of the Southwest, and Olive Rush is one of the pioneer artists who helped develop that world famous colony. Her searching, zestful intellect and fresh, buoyant approach to her art, combined with a genuine eagerness to help young artists, has won for her a permanent place in the hearts of the many people throughout the land who know and love her.

By W. THETFORD LeVINNESS

**I** HAD HEARD of Olive Rush long before I met her, for her paintings are well known in many parts of the country. When I saw her at some of the social functions and intellectual gatherings for which Santa Fe is famous, I was impressed by her snow-white hair, the modest dress, the genuine interest in people and things. Miss Rush is a friendly person. It wasn't long before we found we had mutual interests — among them museum activities, contemporary schools of art, and world peace.

Thus began an acquaintance that has lasted more than a decade. I have visited Miss Rush at her home and she has attended parties at mine. I am glad I have had the opportunity to know the kind of person she is, as well as the chance to better appreciate her paintings.

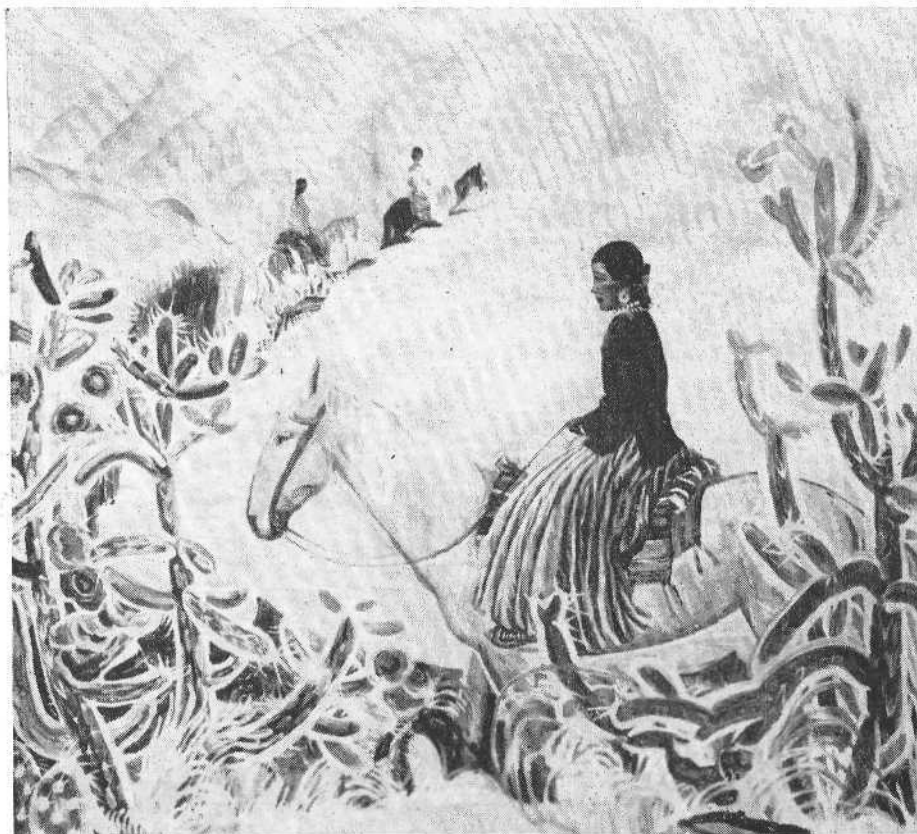
Olive Rush has lived in the Southwest a long time and has depicted many of its facets on her canvases. She is one of the handful of pioneers who helped develop Santa Fe as an art center a generation ago.

On a recent visit to her home, which also is her studio, I was impressed with its tidy informality. She lives in one of Santa Fe's oldest houses, typical of the thousands of native adobe dwellings of northern New Mexico. Its thick walls are never too cold in winter nor too hot in summer. When she bought the place, it did not have plumbing or electricity. Miss Rush added both, and has a large studio window to light her work. Books, art magazines, and a guitar are strewn about casually on

alcove shelves. Paintings are stacked in neat little piles of six or eight on the floor against the walls. The whole has an air of creative living without the least suggestion of bad housekeeping.

Olive Rush was born in Fairmount, Indiana, of Quaker stock, and began to paint as a child. She studied at the Art Students League in New York, then went to Paris for further schooling. She traveled extensively as a young woman, and painted the landscapes and the peoples of many of the places she visited.

It was while touring the West in 1914 that she discovered Santa Fe. She spent two weeks in this old capital, where Paul A. F. Walter, then editor



"Navajo Woman on Horseback," purchased by Mrs. Herbert Hoover in 1931.

of the *Santa Fe New Mexican*, helped her arrange one of her first exhibitions. It was held at the three-centuries-old Palace of the Governors, which, only a few years prior to that, had been turned into the state museum. Walter, who has since had a distinguished career as banker and president of the New Mexico Historical Society, carried a favorable review of the show in his newspaper.

For the next six years Miss Rush painted in New York and Indiana, and in 1919 won honorable mention and first prize at two exhibitions. The following year she moved permanently to Santa Fe, and soon after bought the house which has since been her studio-home.

She pays close attention to construction in her painting. "As steel and concrete are the media of a contemporary builder," she explained, "so forms and colors are media of the painter. Love of any style will influence you right to your very heart, and will shine through your work."

In most of her paintings, Olive Rush seeks a middle ground between traditions of the past and "the world of speed and machinery in which we live."

"The immediate present is stirring and insistent; it crashes itself upon us with a violence not to be denied. But

the long, slow, and silent past is like the sky overhead — potent, watchful, eternal."

This "long, slow, and silent past" Miss Rush believes is best exemplified in the Indian life of New Mexico and Arizona. Corn dancers of Santo Domingo, Snake clansmen of Hopiland, Shalakos of Zuni, and Navajo women on horseback are but a few of the age-old manifestations of Indian culture which have appeared as subject-matter for her paintings.

Her rendition of a Snake dance at Walpi was used as an illustration for Erna Fergusson's *Dancing Gods*. When President Hoover and his family visited Santa Fe in the summer of 1931, Mrs. Hoover bought from Miss Rush a Navajo scene that was hung in the White House before being sent to the Hoover home at Stanford, California.

Miss Rush's use of Indian material has been augmented by a consuming interest in Indian art. Some of the most talented Pueblo and Navajo painters say they owe a large measure of their success to her inspiration and encouragement.

"When Chester Faris was principal of the Santa Fe Indian School," she said, "he asked me to do a series of murals for the dining room there. I wouldn't do it, as I didn't think it proper for a non-Indian to work there when there was so much talent to be

developed among the students. So I offered to help several of these young artists depict some of the everyday scenes from their own experiences in the pueblos and on the reservations."

The result is still to be seen in the Santa Fe Indian School dining room — a monument in oil to a way of life that is slipping gradually into legend.

These Indian murals were so favorably received that soon after their completion Miss Rush was commissioned to direct another series by Indian artists for the Maisel Building in Albuquerque. These were done in casein and she worked on the scaffold alongside these energetic, resourceful young people. For this project she did three of the panels herself.

It is for murals such as these and for her frescoes that Olive Rush is perhaps best known. She has done murals for the New Mexico Room at La Fonda, a Santa Fe resort hotel; postoffices at Florence, Colorado, and Pawhuska, Oklahoma; the Biology Building at New Mexico A. & M. College near Las Cruces; and the homes of leading citizens in Chicago, Tulsa and Santa Fe.

Her frescoes, done in the Giotto tradition, decorate the public library as well as the fireplace of her own studio in Santa Fe, and the home of Miss Mary Wheelwright in Alcade, New Mexico. In 1955 she presented a fresco, "Socorro," to the Espanola hospital which was installed in the patio where patients and staff alike may enjoy it.

Miss Rush does some abstractions, but specializes in the more conventional forms of painting. She paints many little adobe houses, often with people in the foreground and almost always with a mountain backdrop. It was such a painting—a water color done at Cordova—that she sold to the Maharaja Gaekwar Sir Sayai Rao III of Baroda when he was in Santa Fe in 1933.

Miss Rush uses delicate tones in much of her work, and loves to paint animals into her lush landscapes. Deer and antelope are long-time favorites with her.

Three of her most recent paintings are called "Viaducts and Villages," "Tiger in Jungle," and "The Procession"—this last inspired, she said, by having witnessed some black-shawled women wending their way toward a hill-top shrine near Abiquiu.

She delights in giving her paintings unusual names, often taken from passages she has read. Thus one of her loveliest canvases got its name from a verse by William Blake—"The Moon Like a Flower in Heaven's High



Bower." Once she took a title from Archibald Macleish: "A Poem Should Not Mean, But Be."

Miss Rush shows a zestful interest in new ideas in art—a "student spirit" that has kept her up-to-date in her profession, and her work well abreast of the times. She is by popular acclaim the dean of Santa Fe's women artists, and lends generously of her time and talents to the Santa Fe Women Artists Exhibitors' Group.

One of the city's most lovable personalities, she is seen wherever there are cultural pursuits. She is frequently at meetings of the Archeological and Historical Societies of New Mexico, the United World Federalists, and Santa Fe's several amateur and professional concert and dramatic groups. A staunch Quaker, she held Friends' gatherings on Sundays at her studio in the years when Santa Fe had no regular Quaker meeting place, and for a long time has participated loyally in most of the activities of the Santa Fe chapter of the American Friends Service Committee.

Although she has lived in Santa Fe for more than a third of a century, Miss Rush has never lost touch with her first love—the Middle West. She has kept up her contacts there through the Hoosier Salon, an Indiana art group. In 1931 she won one of its highest awards, the Tri Kappa prize; and in 1947 the honorary degree, Doctor of Fine Arts, was conferred upon her by Earlham College, Richmond, Indiana.

I asked her why she had chosen Santa Fe as a place in which to paint. She walked over to her studio window and pointed to the mountains to the north. "Santa Fe has a rarefied atmosphere which has not yet been invaded by factory whistles and grimy smokestacks," she said. "Here I am near the Sangre de Cristos, the Pueblo Indians, and the Spanish-speaking people whose ancestors settled this region. It is from these forces, these influences, that I derive the peace which I find necessary to creative effort."

#### ROADSIDE REST STATIONS PLANNED IN CALIFORNIA

Roadside Rests will start appearing along California's state highways before the end of the year, it was announced by the Division of Beaches and Parks.

Six or more of these rests will be established before the end of the calendar year and a total of 175 is the goal set for the end of June, 1957. The sum of \$450,000 was appropriated by the legislature for this work.—*Imperial Valley Weekly*

"Progress is fine," said the old timers in the Antelope Valley, "but it doesn't mean we have to destroy Old Father Joshua to make way for a modern highway . . ."



## Daddy of the Joshuas

By BETH BRAKEMEYER

**O**LD FATHER Joshua stands alone and serene, guarding the valley about him. Larger than the remaining trees in the area, he can be seen for miles around.

Antelope Valley, at the western tip of the Mojave Desert in California, still abounds in the Joshua. The tree belongs. It is part of the valley. Standing against the evening sky, shaggy, grotesque, twisted branches winding in every conceivable direction, it reminds one of a giant octopus about to grapple with its prey.

Until recently the Joshua Tree was unchallenged on sweeping desert sands. Thick groves stretched as far as the eye could see, but now all is changing. Industry and subdivisions have driven their roots into the sandy soil and the Joshua is being crowded out.

First in this forward march of industry came the chicken farm with its long rows of wire enclosures. This was followed by the turkey ranch. Next came the war and flying. Uncle Sam, in search of a suitable location for defense plants, chose the valley. The trek to the desert began. People arrived in trailers, buses, trains, on foot and they made homes in anything available until better accommodations could be had.

This necessitated a clearing of the

land, and acres of Joshua Trees were felled by bulldozers.

Then came the roads. The winding, dusty trails were changed into straight, broad highways. Old Father Joshua stood in the center of one of these dusty trails. He had stood there for centuries for he was ancient when the first settlers came into the valley.

There was sadness in the hearts of many when it was learned that the old tree must be cut down. It was a landmark and people from all over the country had driven miles to see it. Now it was to go! The old timers remonstrated. The road commissioners could not do this to them, they argued, but the road work continued.

The controversy grew. The road workers took off their hats and scratched their heads. They were in complete sympathy with the community, but they had their work to do.

And then, one day, a committee of public minded citizens arrived, paper in hand. "We are authorized," they said, "to see that Old Father Joshua remains standing. Furthermore, an inscription is to be placed on the trunk giving, in part, a history of the cherished old tree."

And so it is. The new highway has left Old Father Joshua as majestic as ever. The road divides so that traffic may pass on both sides of the tree as had been the custom in days gone by. Old Father Joshua remains king of the Antelope Joshua Forest.

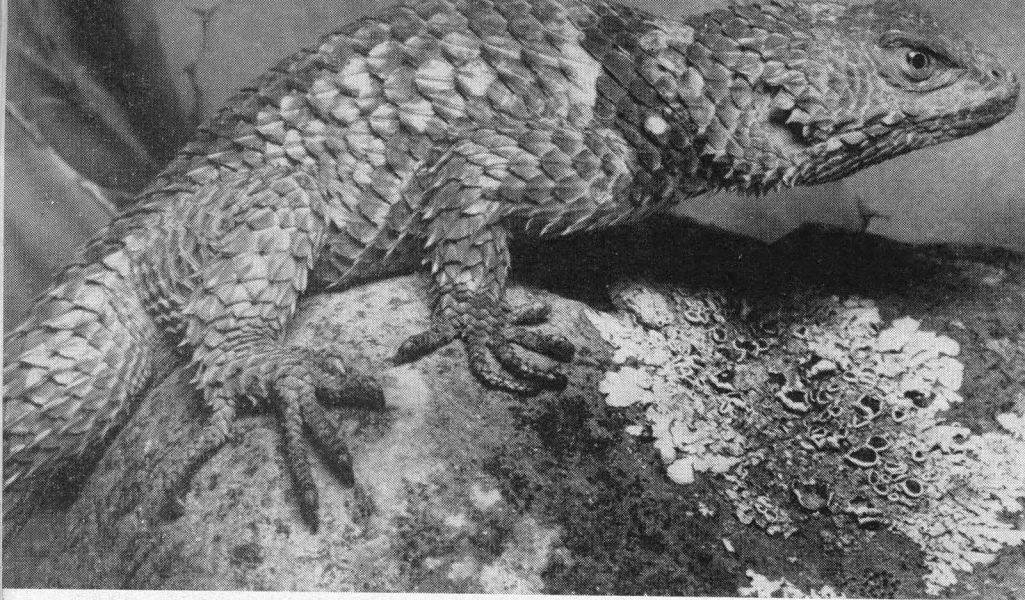


# Lizards of

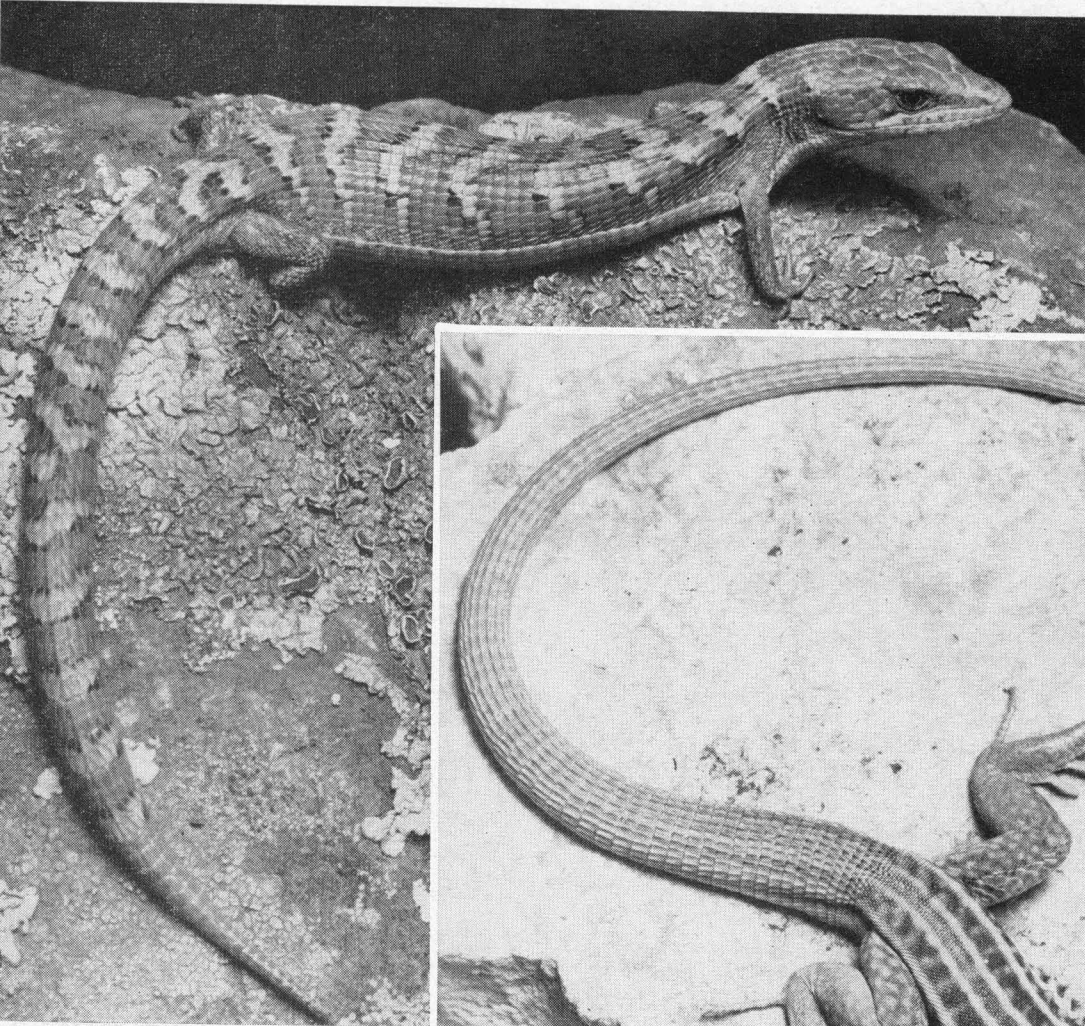
By GEORGE M. BRADT

These reptilian portraits belong to representatives of six of the Southwest's most interesting groups of lizards. Each one, or a closely related form, inhabits one or more of our desert states. Although quite dissimilar in appearance, each lizard possesses characteristics common to all saurians.

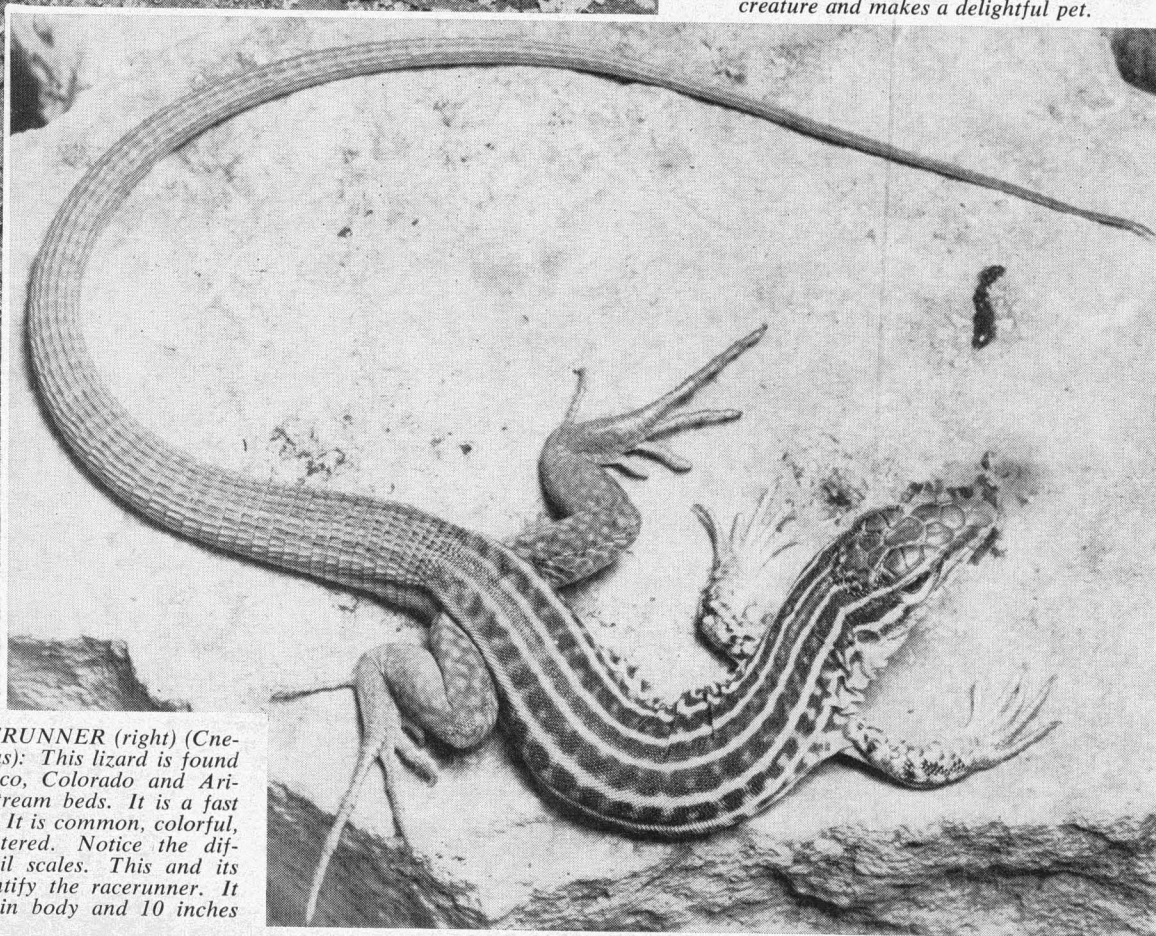
Lizards all are cold-blooded and have a dry, scaly skin which they shed, or moult, frequently. Their tiny teeth are set in the outside edge of each jaw in a single row. Their distinctive tails are used for balancing or as storage places for fat. Many species readily part with portions of their tails as a means of self-preservation, and then grow new



**RED SCALY LIZARD** (*Sceloporus poinsettii*): This fine-looking fellow loves rocky slopes where crevices afford numerous hiding places. When alarmed these lizards squeeze themselves into small fissures and wedge themselves tightly by the simple expedient of taking a deep breath. Their stiff spines make withdrawal almost impossible. They are eight or nine inches long including banded tail. Rough scales, black collar, and sky blue throat (in males) make identification easy. These lizards are common in the limestone foothills near El Paso, Texas.



**TEXAS ALLIGATOR LIZARD** (left) (*Gerrhonotus lisecephalus infernalis*): Here is one of the strangest of all lizards. Members of this genus are found in California, Arizona, southwestern New Mexico and western Texas. Snake-like in appearance, it furthers this illusion by rearing on its tiny back legs when molested and then opening wide its pointed muzzle and hissing. Its long tail can even be used to a slight extent for grasping. I had one hang from my finger by nothing more than its curved, prehensile tail. These harmless lizards are credited by the uninformed with having a poisonous saliva which will rot the flesh it touches. It is a rather prettily marked creature and makes a delightful pet.



**WESTERN SPOTTED RACERUNNER** (right) (*Cnemidophorus gularis octolineatus*): This lizard is found in western Texas, New Mexico, Colorado and Arizona along dry arroyos and stream beds. It is a fast lizard and difficult to capture. It is common, colorful, interesting and easily encountered. Notice the difference between body and tail scales. This and its large belly scales help to identify the racerunner. It grows as long as five inches in body and 10 inches in tail.

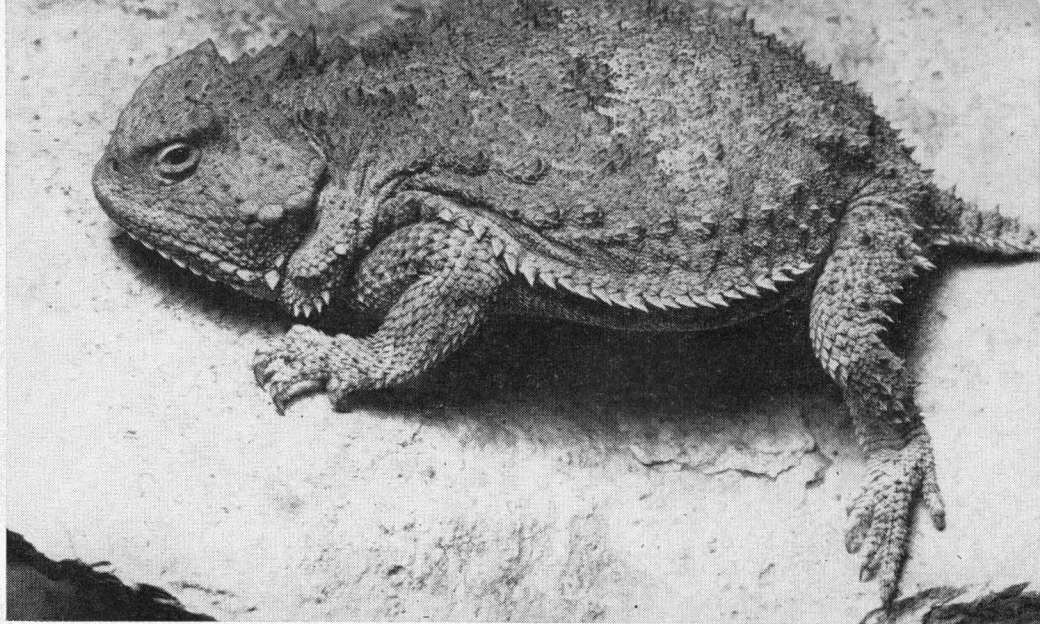


# the Desert

ones. Others become lighter or darker with changes in environmental temperature: lighter the hotter their surroundings become; darker the cooler.

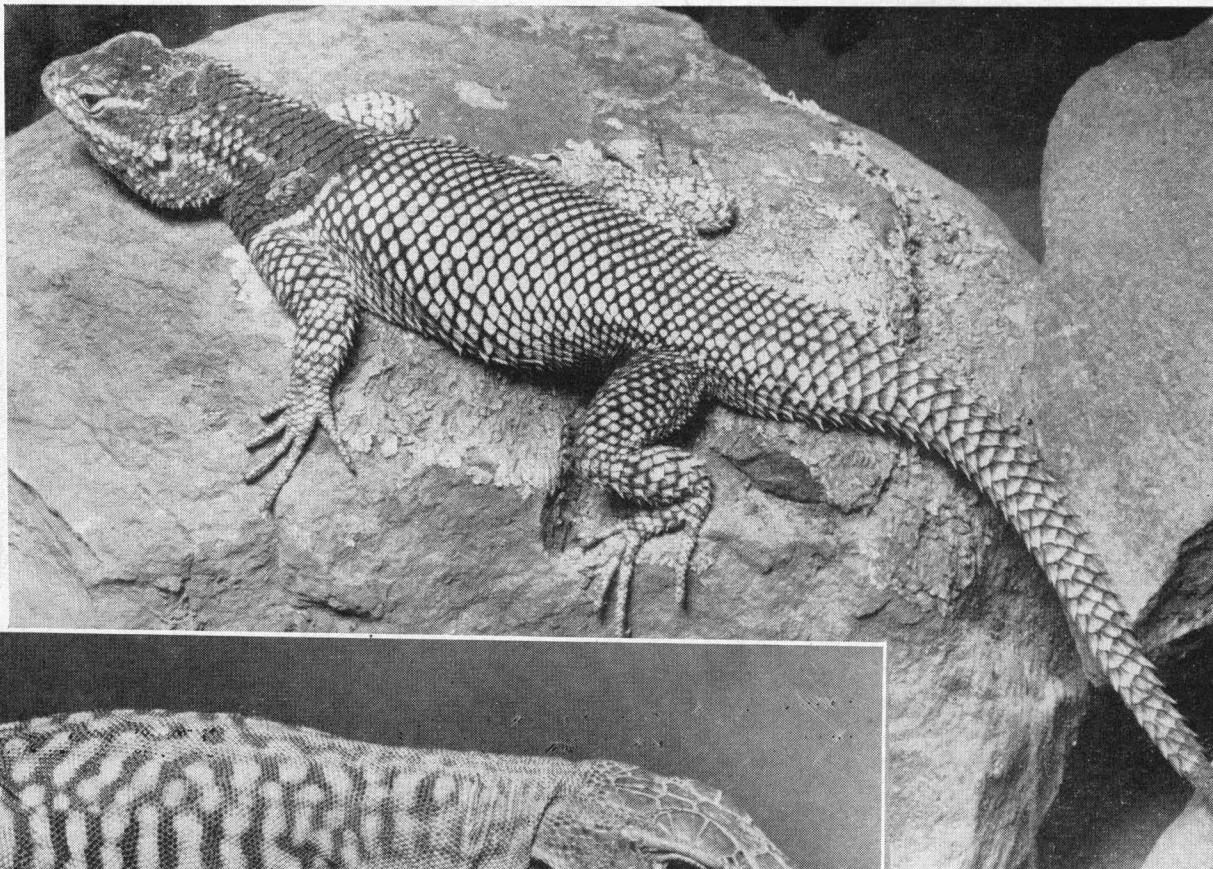
Lizards make interesting pets, though they are far harder to keep in captivity than are their snake relatives. Close attention must be paid to feeding, temperature, water needs and living quarters. Much information still is needed about lizard life histories and habits. They are common, clean and entirely harmless (except for the unmistakable Gila Monster), and are fascinating subjects for study and observation.

The accompanying photographs will help in the identification of some of the lizards one is likely to encounter on a desert, foothill or mountain hike in any of our Southwestern states.



**SHORT-HORNED LIZARD** (*Phrynosoma obiculare hernandesi*): The familiar "horned toad" is in spite of its ubiquity one of the world's strangest lizards. Its horns, short tail and flat body make it a bizarre sight. This species is not as colorful or as "horned" as the typical Texas "toad" but it is just as weird. All horned lizards are easily caught. Some are apt to show their displeasure at being captured by trying to prick the captive hand by raising the horned head against bare fingers. But this is of no avail. Most are gentle and seem resigned to captivity.

**YARROW'S SCALY LIZARD** (*Sceloporus yarrowii yarrowii*): Belonging to the same genus as the Red Scaly Lizard, this handsome creature sports a salt-and-pepper suit composed of a black background and numerous white-spotted scales. Yarrow's lizard is smaller and more of a mountain lizard than its cousin. This species is found in southern and central Arizona and western New Mexico. To a marked degree it possesses the ability for changing hue. The photograph shows the lizard in its "white mood."



**DESERT WHIPTAIL LIZARD** (left) (*Cnemidophorus tesselatus*): Here is a true desert lizard. It lives far from water in the open desert lands of the Southwest and is a large and speedy species. This fellow is known as the Common Tesselated Lizard.



## Pest Control in the Desert Garden

Insect enemies of the desert garden, while perhaps not as numerous as in damper climates, are still a factor that cannot be ignored. Here are some of the weapons which Ruth Reynolds has found very effective against these pests.

By RUTH REYNOLDS  
Sketch by Helen Gardiner Doyle



**7** HERE ARE those who sometimes lament the lack of drama in a desert autumn. But who would alter the desert if he could? Who would exchange the desert's grandeur and austerity for leafy groves turned briefly, gloriously bright?

Certainly no one who calls the desert home. And the desert gardener whose small oasis is lushly green and colorful with bloom must, I think, occasionally apologize to the desert—repledge allegiance to it—even amid the pleasures—or the perils—of gardening.

The perils I allude to are pests and diseases. In bringing them up at this time when all apparently is well in the garden, I may be attempting to make, if not an apology, at least an excuse—saying in effect to the desert, "See what price I pay, what retribution I make, for being a desert gardener at all?"

Not a very good excuse, as my problems are quite universal. The desert garden's chewing, sucking and blighting enemies may even be fewer than those of gardens elsewhere, but they do exist and are not to be ignored—for too long.

Chief among the chewers, according to size and appetite, is the grasshopper. Though he is by no means garden enemy number one, he is no friend of mine. Not since a drove of grasshoppers fattened on the leaves of my narcissus plants last fall—eating them to the ground as they emerged and re-emerged. Only by covering the plants with netting did I save them until they were ready to bloom in February and a long delayed freeze finally drove off the grasshoppers.

Other garden plants for which these insects have a marked preference are

chrysanthemums, iris and sweet peas. The five percent chlordane dust I used on the plants and on the ground around them was ineffective. This year, if the need arises, I shall use a 10 percent strength and hope for better results.

Marauding droves of adult grasshoppers are not, of course, comparable to an invasion by hordes of young hoppers or nymphs which eat their way to adulthood by stripping areas bare of vegetation. This is a problem for crop dusters or sprayers in agricultural areas. When this happens to a garden—and it has happened to mine once—only mass dusting or spraying is helpful and a liquid chlordane mixture applied with a hose-attached sprayer is one remedy. Aldrin, when available in small quantities, is recommended by the University of Arizona Agricultural Extension Service, whose pamphlets supply me with much information.

After my experience with the persevering grasshoppers it seemed doubtful that any ant could ever put them to shame—until I met the Harvester ant, not too prevalent but still found in this area. And how a colony of Harvesters live up to their name! To defoliate a small shrub is all in a day's work for them.

Their system is ingenious, as many ant systems are. They climb among branches and twigs, bite off the leaves so they fall to the ground. There they retrieve them, adroitly roll them up and carry them home. Leaves such as clover growing near the ground reduce their climbing time and make harvesting much easier. Unfortunately, for them, the gardener can follow their trail—a neatly mowed swath through the clover or the ants themselves in a long line—to their hill where a generous sprinkling of chlordane dust will stop them short and eventually eradicate them, at least in that vicinity.

Other ants are controlled in the same way. Generally ants do little damage in the garden aside from tending aphids—moving them about from plant to plant and protecting them for the honeydew they provide the ants with.

Other chewing insects which may be given a lethal dose of chlordane are cutworms, crickets, darkling beetles and sowbugs.

Cutworms—dull gray or shiny grayish-black and about an inch and a half long—work by night, usually feeding on young transplants which they nip off at ground level. Chlordane sprinkled on the ground around the plants will intercept the cutworms as they emerge from the soil in which they spend the day.

Crickets, which often do considerable damage to foliage of flowers and flowering shrubs may be controlled by applying the dust on the plant and on the ground around it.

Control for darkling beetles—small brown bugs that feed on tender plants—is the same as for cutworms.

Sowbugs, those gray, oval insects of many legs and plump, crusty bodies, sometimes leave their breeding ground under boards or rubbish to forage on roots of plants. The cutworm treatment is good for them, too, and a general cleanup of the premises should discourage them.

The sucking insects are the bane of my garden. And among them all the aphids are the most conspicuous—if not the most harmful. These small, soft bodied, globular plant lice come in colors—green, yellow, black—to blend with the plants they infest, clustering on leaves and stems. Unless controlled they distort plants and flowers and may kill the less hardy. They also are suspected of spreading bacterial diseases such as oleander gall. Plants upon which they feed include annuals—stocks, snapdragons, mari-



golds, calendulas — arborvitae, privet, oleander, elms, ash, photinia, ivy and chrysanthemums.

Aphids did me one good turn. They drove me, rather belatedly, to buy a hose attachable sprayer. "It is too complicated," I thought after first seeing one demonstrated, "I would never learn to use it." But when the aphids became increasingly bothersome I concluded that any one who could read could follow the instructions, printed in permanent paint, on the small sprayer's glass jar.

With a hose-attached sprayer you can do a thorough job of spraying and only a thorough job is at all effective. My Sprayette has an adjustable deflector which can be turned to spray upward from beneath a plant or downward from above it, contacting both under and upper sides of leaves. How it correctly mixes and sprays automatically, is a mystery to me—but it works. And in my garden spraying-made-easy has meant spraying-accomplished. And what a difference this makes! Not only are the smaller plants and roses sprayed regularly but so are the larger shrubs, even trees, which are host to a wide range of insects including aphids and other suckers — thrips, spider mites, (Red spider) leafhoppers, scale.

Thrips, the rose's worst enemy, are very small, slender insects which attack the blooms. Open a stunted rosebud that refuses to bloom and you probably will find them within.

Spider mites are most often associated with pyracantha but they also

attack cotoneaster, arborvitae, junipers, privets, cypress, ash and elms and annuals such as pansies, violets, stock, snapdragons. They suck juices from plants and are vectors of plant viruses.

A 50 percent malathion emulsion currently is popular for controlling these various insects on shrubs and flowers. It may be combined with an oil emulsion for a dormant spray to kill overwintering eggs or hibernating insects on dormant trees and shrubs.

Malathion also is used to control cottony cushion scale, an insect that looks like a growth on the bark it clings to. My pamphlet, revised in 1954, recommends only the Vedalia lady bug. And these, it tells me, may be secured from the Arizona Agricultural and Horticultural Commission. I doubt if that offer extends beyond my home state however and there largely to citrus growers as the cottony cushion scale often feeds on citrus trees. Here in Tucson it has been doing much damage to the pittosporum—one of our finest shrubs.

With plant diseases I had had little experience until this summer when the worst happened. My tomatoes were stricken with Curly-top. This is a virus spread by the sugar beet leafhopper. At the onset the leaves rolled inward then paled while the veins dark-

ened. The plants became yellow and sickly; the tomatoes turned an orange red and had an off flavor. All four of my plants were diseased so I destroyed them as there is no known cure for Curly-top.

There is better news concerning fire blight, hitherto an uncontrollable disease doing great damage to pyracanthas and other ornamentals though more significant as a menace to pear trees.

In an article in *Progressive Agriculture in Arizona* Dr. Rupert B. Streets, of the university's Plant Pathology Department, discusses experiments conducted by the department in which antibiotics were used on infected Bartlett pear trees.

"Our proving that the antibiotic formulation of 90 percent streptomycin sulfate and 10 percent tetramycin will control fire blight makes possible the growing of desirable pear and apple varieties in Arizona," he concluded.

This leads to the supposition that these antibiotics may soon be available for not only orchard but garden use also.

Beyond this I prefer not to think—except that November is chrysanthemum time in the garden and that the last roses of the season are the loveliest. And the desert is as tranquil and as unperturbed as it always has been.

## INITIALS ON TORTOISE DISAPPEAR IN YEAR

If you want to carve your initials for posterity—don't choose a live tortoise shell for your work.

Dr. Loye Miller, professor emeritus of zoology at the University of California, has been observing desert tortoises for many years. He takes with a grain of salt the oft-repeated tale about tortoises that have survived in the wilds for a century or so as evidenced by initials and dates carved on their shells by pioneers.

Dr. Miller found that such carvings disappear within a year or two due to remarkable regeneration characteristics of the animals.

Dr. Miller also says that tortoises:

1. Commonly have bladder stones which generally do not have serious effect on the animals.

2. Males achieve maturity at about the same age as human males, that is, from about 16 to 20 years of age.

3. Egg laying is a big event with the female. She will not eat or drink for some time preceding it.

*Aztec Independent-Review*

## Hard Rock Shorty of Death Valley



A perspiring tourist stopped at the Inferno store in mid-summer. "Got anything cold to drink?" he asked.

"Sure, we got most any kind o' soda pop yu want," replied Hard Rock Shorty, who was taking care of the trade while the clerk was away on vacation.

Shorty dug down in the cooler and came up with the flavor the customer wanted. The visitor downed the bottle, and called for another.

"How do you keep it so cold in a place like this?" he asked. "Must be at least 150 degrees today."

"Dry ice!" explained Shorty. "Get it over in that dry lake the other side of Amargosy."

"Dry ice from a dry lake!" exclaimed the tourist. "That's a good one."

"Coldest ice on earth!" de-

clared Hard Rock. "Freezes everything, an' when it melts it jest leaves a dry spot."

"Remember one July when Pisgah Bill got the idea o' using it to cool his shack up in Eight Ball crick."

"Good idea, only Bill set the box of ice too close to the foot of his bed. Took off his shoes before goin' to bed one night. Got his toes frostbit, an' there wasn't no snow to rub on 'em. Feet been botherin' him ever since."

"That was the year Bill went into the chicken business. One day he came back from Barstow with a batch o' duck eggs. Put 'em in the incubator over in one corner of the room an' forgot about the dry ice. Three weeks later when them duck eggs hatched out they was all pen-guins."

# Elephant Trees of Vizcaino...

At least three distinct Desert Southwest plants bear the common name, elephant tree. But botanists, Dr. Jaeger reports, are coming to regard the grotesque, twisted "*Pachycormus discolor*" of Baja California's Vizcaino Desert as the plant world's true elephant tree, and he has chosen it as the subject for this month's discussion.

By EDMUND C. JAEGER, D.Sc.  
Curator of Plants  
Riverside Municipal Museum

Elephant trees like best the rocky areas. Here it grows with cirios (far left), large cacti and agaves. Photograph by the author.

**T**HE VIZCAINO Desert of the middle portion of Baja California has one of the most unique as well as richest desert floras in the world. When traveling over its rough and often lonely roads one has the impression that he is in an unreal world, so unusual are the plant forms.

Last June Bob Orth of Elsinore, John Greene of Arcadia, California, and I made a trip to this enchanted arid land to study some of the tree monstrosities of which we had heard so much, but never had seen.

We were particularly eager to examine the elephant tree, *Pachycormus discolor*, and first came upon it near the old onyx mines in the vicinity of the ruins of the Mission San Fernando, 275 miles below the U.S.-Mexican border.

A roadside hill ornamented with large granite boulders was almost completely covered with the squattish trees bearing ponderous trunks and numerous tortuous limbs. They gave us a mental thrill such as one always has when first seeing something new and unusually different. Moreover, we were immediately impressed when we saw the many twists and turns of the branches, that the Mexicans had aptly named this tree *Torote Blanco* from the Spanish verb, *torcer*, to twist, and *blanco*, white.

The very short, fattish trunks varied from 18 inches to two feet in diameter and from this stubby swollen base extended in every direction the crooked limbs of exaggerated thickness which very abruptly tapered into the short, angular leaf and flower-bearing branchlets.

This desert area had been suffering

from a long and extended drouth and all the elephant trees we saw were without leaves. The natives told us that soon after effective rains occur the numerous finely divided leaves will come out to give the trees a covering of bright, lively green. Soon after they appear the leaves are dropped, however, and the trees remain leafless throughout most of the year.

If the rains are sufficient, feathery panicles of small pink, red or yellow flowers appear in great profusion. Usually this occurs sometime between June and August, and when the flowering trees are grouped in large thickets they make a blaze of color visible for several miles, I was told. It is a sight I would very much like to see.

We camped several nights in *Torote Blanco* country and since the moon was full, were able to appreciate the trees' fantastic and bizarre forms in marked degree. The reflection of moonlight from the smooth, papery bark made every limb stand out distinctly. One night I saw a mother screech owl and her little family of three young silhouetted against the blue-black sky as they sat on a limb—a most engaging picture.

Next morning I decided to learn something about elephant tree wood. Choosing a decrepit tree I chopped into several of the fat branches with my hand axe. So spongy and thick was the soft outer parts that the blade sank almost to the handle with every blow. This corky bark, oozy with sap, was pinkish-yellow in color. The small amount of heartwood beneath was somewhat firmer but when elephant tree wood becomes thoroughly dry there is little solid material left.

I readily saw why the Mexicans say that *copalquin*, as they sometimes call this tree, is "never good for anything, not even for fuel." An elderly man at El Arco told me that many years ago considerable quantities of the bark were sent to Europe to be used in tanning.

Almost everywhere we found this species to be associated with that strange relative of the ocotillo, the Cirio (*Desert*, October '55) and with the giant cactus, cardon. It occurs from Onyx all the way southward to Magdalena Bay. The largest specimens grow on the north and east slopes of the desert mountains up to 1800 feet. It disappears on the lava-covered mesas eastward along the rocky backbone of the peninsula.

The Vizcaino Desert is unique among deserts in being bounded by the ocean on two opposite sides. On the Pacific Ocean side the elephant tree grows to the water's very edge and the trees are stunted due to the strong prevailing westerly winds, often not more than two feet high and four to five feet across the top of the crown.

The elephant tree was first discovered by Richard B. Hinds, a surgeon who had come ashore from the *H.M.S. Sulphur* in 1839. Specimens were sent to England for study and the renowned English botanist, George Benthham, thought it was a relative of the Peruvian Pepper Tree, now so commonly planted as a street tree in Southern California.

Accordingly, he called it *Schinus discolor*. Later, it was described as a *Rhus*, the same genus ascribed to poison oak. It was left to the late Dr. Frederick Coville of the U. S. National



Herbarium to place it in a genus of its own, *Pachycormus*, in the Cashew family, *Anacardaceae*.

In 1859 one of Baja California's earliest botanical collectors, Dr. John A. Veatch, found this tree growing on isolated Cedros Island west of the peninsula. His picturesque description of the tree is worth recording here:

"The trunk divides into several ponderous branches that shoot off horizontally and are bent and contracted into grotesque resemblances of the flexed limbs of a corpulent human being. These huge branches often terminate suddenly in a few short twigs covered with a profusion of red flowers, reminding one of the proboscis of an elephant holding a nosegay.

"The resemblance (to an elephant) is heightened by the peculiar brown skinlike epidermis that forms the outer bark, which splits and peels off annually, accommodating the increase in growth.

"This epidermis, when removed, exposes the smooth, greenish-colored surface of the spongy inner bark which is from one to two inches in thickness. When this bark is cut through, a milky juice exudes that soon hardens into a compact mass of gum and resin."

In certain areas back some distance from the sea, the elephant trees take on a very strange appearance because of the presence on their branches of numerous rounded gray masses of that remarkable air plant called ball moss, *Tillandsia*.

Sometimes a single tree will have several dozen of these four to six-inch balls attached to its branches. I brought home several of these unique epiphytic plants and find them a constant source of curiosity and amazement to my visitors. This plant, which is not a parasite and which lives wholly on air and moisture from the air, is a near relative of the pineapple.

The seeds of ball moss are produced in quantity in numerous stalked elongate capsules. They are exceedingly small and to each is attached a long linty plume which makes it easy for the wind to carry them to new host plants. I am eager to return to Baja California when I can see the ball moss in flower.

Some of the elephant trees are parasitized by a peculiar *cuscuta* or love-vine with numerous entangling hair-like yellow stems. Sometimes the infestation is so pronounced that the tree branchlets are almost smothered and one can scarcely see any of the actual tree. This parasitic plant is as surprising as the ball moss in its botanical affinities, for here we have a plant as unlike a sweet potato or morning glory as can be, yet on the



Ball Moss, an air plant related to the pineapple. Note the splitting seed capsules. Photograph by David Boyd.

basis of its flower structure is brigaded with those familiar plants.

Next time I go to the marvelously picturesque Vizcaino Desert I am going to try to get some seeds and grow *Pachycormus* in my garden. The young trees are said to resemble a huge radish protruding from the ground.

Bird students have done a much better job of giving common names to our feathered friends than the botanists have in giving meaningful English names to plants. Ornithologists long ago assigned vernacular names to the birds that are as definite and distinctive as their scientific names. Among the plant lovers one so-called common name may be applied to four or five different plants thus creating the greatest confusion when speaking or writing about them.

On our Colorado Desert in California and adjacent Arizona we call the small, fine-leaved, pungent *Bursera microphylla* an elephant tree. Farther south around San Felipe along the gulf of California, the apple tree-like large-leaved copal (*Elaphrium macdougalii*) is called an elephant tree. Farther down the peninsula the *Pachycormus* is spoken of as an elephant tree. This is most unfortunate for each plant is so totally different that even the novice in plant lore will at once realize that the plants are probably only distantly related.

I recently have talked to quite a number of competent botanists and they pretty well agree that the name elephant tree should be properly ap-

plied only to that remarkable dropsical-trunked tree of Baja California, *Pachycormus discolor*. Its swollen trunk and limbs really do remind one of the limbs and proboscis of an elephant.

#### BOTH PARTIES AGREE—CLEAN ROADSIDES NEEDED IN U.S.

Both Democrats and Republicans have agreed upon at least one plank in their platforms—that of clean roadsides, city streets and recreational areas.

The national recognition of this serious problem and appreciation of the work being carried out by thousands of civic-minded men and women throughout the nation highlighted the recent meeting of the Statewide Cleanup Committee of the California State Chamber of Commerce. — *Imperial Valley Weekly*

#### JACKRABBIT HOMESTEADERS MISINTERPRETING RULING

Several holders of Jackrabbit Homesteads have misinterpreted a recent announcement that an additional three year allowance has been granted to homesteaders to improve their lands. This new ruling does not affect nor extend the right of holders of small tracts, government officials said, but applies to claims under the Desert Land Act.

Many holders of Small Tract Claims are jeopardizing their claims by postponing building because of this rule misinterpretation.—*Apple Valley News*

# LETTERS

## Water Costs Overlooked . . .

San Clemente, California

Desert:

In your September editorial regarding the California-Arizona water dispute I liked your comment "I hope the side wins which can apply the water most economically—" It can also be hoped that the users of this water can afford to pay for it and that the projects will eventually be self liquidating. A mixture of water and politics is often a smelly and dangerous potion.

Eight years ago a man ran for congress with a slogan of "Water for the Mojave Desert." His scheme was to augment the flow of the Colorado by means of canals and tunnels in its upper reaches. His oratory brought the water down as far as Needles where he said the army engineers would take it from there. The area to be irrigated lay 250 miles west and 2000 feet higher so the entire scheme was economically unsound. Luckily, our politico was soundly defeated.

FRANK B. RUTLEDGE

## Regarding Black Gold . . .

Sherman Oaks, California

Desert:

I would like to shed some light on the current discussion in *Desert Magazine* among your readers regarding Black Gold.

In 1905 my father was appointed General Manager and Superintendent of the Ouro Preto Gold Mines of Brazil, and he was there in that capacity for 21 years. I went there as a child, arriving on my sixth birthday, and for the next 40 years I was intimately connected with Brazil and in particular with the district of Ouro Preto (Gold Black).

Gold was first discovered there in 1670 and during the next 150 years 426 long tons of Black Gold were mined from this area. It was known as the "Richest Spot on the face of the Globe." All this gold was black because it contained about 10 percent palladium, which enhances the value about 12 to 15 percent.

During this early boom period at Ouro Preto, Brazil was a Portuguese Colony and therefore was paying taxes to the Mother country. In the case of the gold, the tax was an "Oitavo" or one-eighth of all gold that left the State of Minas Geraes of which Ouro Preto was the capital.

The miners and people of the town did everything they could to avoid pay-

ing this tax and used the gold for many purposes quite unsuited for the soft metal. Gold dishes, plates, spoons and forks were in common use by the rich inhabitants of the city of 80,000 people.

A vast number of African slaves did all the manual labor, and the wives of the rich vied with one another to show household slaves ornamented with solid gold bangles, combs, earrings, etc. Replicas of the bracelets, now made in silver, are much in demand in Brazil today and are known as Baligendem, a kind of charm bracelet.

KILIAN E. BENSUSAN

\* \* \*

Del Rosa, California

Desert:

Mrs. Mocko's copper mining father may have come close to its nature with his idea of a black gold called "Tullarium," but I have never heard of such a mineral. There is a tellurium and telluride.

*Laucks Prospectors Guide* (1940), a thoroughly scientific compilation, lists petzite as a gold ore with color from iron gray to black and a metallic luster. Pure petzite is gold, silver and tellurium and a pound of it would be worth about \$125.00.

H. GRAHAM

\* \* \*

Oceanside, California

Desert:

The ore telluride is a chemical combination of gold and tellurium, the only such alloy of gold in natural ores. The town of Telluride, Colorado, is named after this ore, once mined there.

I have seen mosaic gold, i.e., gold inlaid in natural black sands. By dissolving the black coating with alkaline solutions the yellow gold is made free.

Gold alloys can be made to take on many colors — green, white, purple, red, etc., but only in nature does gold alloy with tellurium.

C. D. DAWSON

\* \* \*

## Arizona National Monuments . . .

Tucson, Arizona

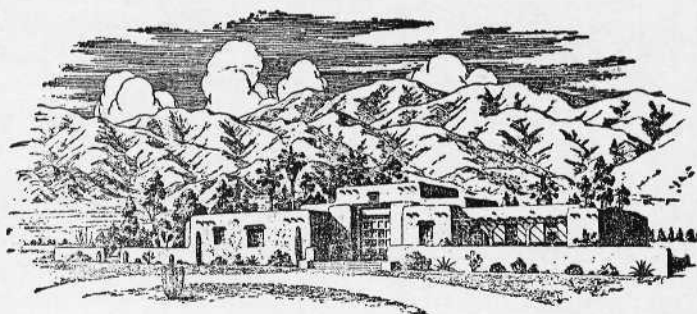
Desert:

I would like to correct a statement appearing in the September *Desert* editorial—"With one National Park and 15 National Monuments within their boundaries Arizonans have . . ."

We are very proud in Arizona to have 16 National Monuments—Chiricahua, Tumacacori, Saguaro, Casa Grande, Organ Pipe, Tonto, Petrified Forest, Montezuma Castle, Tuzigoot, Walnut Canyon, Sunset Crater, Wupatki, Pipe Spring, Navajo, Canyon de Chelly and—

Grand Canyon National Monument in addition to Grand Canyon National Park.

ROANNA H. WINSOR



## You Are Cordially Invited . . .

. . . to visit and enjoy the outstanding exhibit of Southwestern art in the spacious foyers of *Desert Magazine's* beautiful Pueblo along Highway 111 between Palm Springs and Indio, California. The finest work of more than fifty of the Southwest's best known artists make up this ever changing display.

Visitors are always welcome at the admission-free *Desert Magazine* art gallery which is open seven days a week from 9 a.m. to 5 p.m. under the direction of Harriet Day, director.

Adjoining the art gallery is the Desert Book and Crafts Shop where the best of current Southwestern books are available for your reading enjoyment. Visitors may browse at will in the restful atmosphere of the gallery and book shop.

*Friend or Stranger, you are welcome here.*



### **Saguaros in California . . .**

Winterhaven, California

Desert:

While tracking down titanium float in a canyon in the Barren Range not far from Midway Well (between Blythe and Ogilby), I found a very strange occurrence for the California side of the Colorado River—a giant Saguaro cactus. It stood 20 feet high and was partially hidden by a tall Mesquite tree.

Do you know of any other Saguaros growing in this vicinity?

JOHN A. LOUIS

*J. A. L.—There are more than a dozen known Saguaros scattered along the California shore of the Colorado River between Winterhaven and Palo Verde. Possibly if the arrival of the white man in this region had been delayed another thousand years he would have found many more than that, for the natural habitat of the native shrubs on this earth is in a constant process of expansion or contraction—generally expansion.—R.H.*

### **Recommends Rainbow Bridge . . .**

Riverside, California

Desert:

I feel sorry for the millions of vacationing Americans who have to visit our over-crowded National Parks and Monuments. There still are many areas to be visited where over-crowding is not a problem.

Such a place is Rainbow Bridge National Monument in Utah. In June of this year my 15 year old companion, Larry Decker, and I made the 14 mile hike to this place. For two days and three nights we did not see another human on the trail.

I would caution prospective visitors to the Bridge that the road to the foot of the Rainbow Bridge trail is almost non-existent, especially between the Inscription House ruin turn-off and the Shonto Spring turn-off. Since the main lodge at the end of this road was destroyed by fire, the register at the Bridge shows that most of the visitors have come up from the Colorado River.

The best road is via Shonto Springs,

but only high center vehicles should attempt it. There is much soft sand here.

I recommend a visit to Rainbow Bridge for those who want to get away from the crowd. Chances are you will have it all to yourself.

JACK HARRIS

• • •

### **Murbarger Book Praised . . .**

Barstow, California

Desert:

Nell Murbarger's *Ghosts of the Glory Trail* is the best book I have ever read on the Southwest. This is a work that will perpetuate in most vivid narrative one of the great epics of all times.

In plain man to man talk Nell is by far the most interesting writer of this present day — yes, even better than Zane Grey. I am writing to my congressman requesting that he have this book placed in all Army and Navy hospitals.

C. B. McCOY

### **California Scenery Best . . .**

Oakhurst, California

Desert:

How in the world can you say in your September editorial that Arizona has more to offer in scenic terrain than any other state?

I agree that Arizona is a great scenic state, but it does not have the overall variety of scenery that California has. Arizona's rock and canyon colorings are superb for that particular type of scenery, but California has the great Pacific Ocean shoreline, a variety of desert scenery and the beautiful back country of the High Sierras. Arizona's largest trees are "bird legs" compared to the Giant Sequoias.

I suggest that if you can pry yourself away from that commercialistic sand dune otherwise known as Palm Springs, that you take a pack trip into the High Sierras and treat yourself to some real scenery.

C. E. MILLER

• • •

### **Place Names Duplicated . . .**

Rosemead, California

Desert:

I know you are familiar with our desert spots of Pisgah, Ludlow, Amboy, Homer, Rice, Ripley, Rosamond and Darwin, as well as the ghosts of Harrisburg, Swansea, Cerro Gordo and Providence.

It is interesting to note that though very different in history and population, all these places also are to be found in the state of Illinois.

ROBERT O. GREENWALT

## **Picture-of-the-Month Contest . . .**

What better way to increase the enjoyments of a hobby than to share it with other people? If your hobby is photography, the friendly Desert Magazine family would like to share the best of your work in our monthly photography contest. And besides the greater enjoyment—you will receive one of the two cash prizes offered each month. The Pictures-of-the-Month contest is open to both amateur and professional photographers and only subject requirement is that your picture be of the Desert Southwest.

Entries for the November contest must be sent to the Desert Magazine office, Palm Desert, California, and postmarked not later than November 18. Winning prints will appear in the January issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5. For non-winning pictures accepted for publication \$3 each will be paid.

### **HERE ARE THE RULES**

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

*The Desert Magazine*

PALM DESERT, CALIFORNIA

# Here and There on the Desert . . .

## ARIZONA

### Rattlesnake Deaths Gain . . .

TEMPE—Rattlesnakes may surpass scorpions as the cause of deaths due to venomous animals in Arizona. Scorpions were responsible for 68 percent (a total of 64) of the deaths due to venomous animals during a 20-year period, 1929 through 1948. The total of 64 is more than twice the number produced by all other Arizona poisonous animals put together. From 1949 through 1954, however, as many deaths (five) were caused by rattlesnake bites as scorpion stings. Of the 94 deaths recorded from 1929 through 1948, 70 percent have occurred from May to August.—*Phoenix Gazette*

### Indian Royalties Increase . . .

WASHINGTON, D. C. — The Interior Department announced that Indian tribes received 46 percent more oil and gas royalty income in fiscal 1956 than the year before. Individuals and tribes collected \$41,000,000 from oil and gas lands in the year ending June 30. The income increase was due mainly to added interest in leasing Osage Reservation lands in Oklahoma and Navajo and other Indian lands in the Southwest.—*Yuma Sun*

#### KENT FROST JEEP TRIPS

Into the Famous Utah Needles Area  
Junction of the Green and Colorado rivers;  
Indian and Salt creeks; Davis, Lavander,  
Monument, Red, Dark and White canyons;  
Dead Horse and Grand View points; Hoven-  
weep and Bridges national monuments.  
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Write KENT FROST, Monticello, Utah.

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### Delinquency Curb Proposed . . .

PARKER—To help the Colorado River Indian tribes of western Arizona fight juvenile delinquency, the Bureau of Indian Affairs is proposing to give the Indians a 10 percent discount in power rates for lighting a tribal recreation area, Acting Commissioner W. Barton Greenwood announced. "The Indians of the Colorado River Reservation," Greenwood explained, "have already spent \$18,000 in developing this recreation area to provide their young people with a wholesome and health-building outlet for their energies. We believe the tribal leaders should be commended for this action and given tangible assistance in every feasible way." The discount proposed would be limited to a maximum of \$25 in any one month.

### Indian Plan Approved . . .

PHOENIX — Indian Commissioner Glenn L. Emmons reported that Arizona Indian tribes are unanimous in their approval of his agency's plan to literally "put itself out of business." The plan involves preparation for the release of Indians from government trusteeship by bettering the health of the people concerned; giving them adequate education; and bringing them to the point of industrial and social development where they can stand on their own feet.—*Phoenix Gazette*

### Boundary Proposal Wins . . .

PHOENIX—The way was cleared by Arizona voters for establishment of a permanent boundary between this state and California. The center of the Colorado River channel has been the recognized western boundary of the state, but the river has changed its course numerous times creating jurisdictional problems. Arizona's boundaries were set forth in the state constitution which can only be changed by a vote of the people. The amendment approved authorizes the state legislature to change the boundary. The two states already have agreed on a permanent line.—*Los Angeles Times*

### Plaque for First Farm . . .

PHOENIX — A historical plaque now marks the site of the first farm in the Anglo-American settlement of the Salt River Valley. The pioneer farmer was Frenchy Sawyer who harvested a small crop of barley and erected a mud-and-brush house at the site in 1868. The marker was placed by the Maricopa County Farm Bureau.—*Phoenix Gazette*

### Building Razing Halted . . .

JEROME — The Jerome Historical Society has been successful in its attempt to stop razing of buildings in the main section of the ghost city. The society has completed purchase arrangements with Verde Exploration Ltd. for most of the remaining buildings in the downtown area. A careful, gradual restoration of some of the property is planned by the organization in order to add more rental property to its real estate holdings.—*Verde Independent*

### Petrified Forest Funds . . .

HOLBROOK—Petrified Forest National Monument is to receive \$1,529,000 for improvements during the next 10 years, according to the National Park Service. The expenditure is part of the \$14,000,000 earmarked during this period for 14 national monuments in the state. The Service plans to spend \$408,000 for road improvements and trails at Petrified Forest, and \$1,121,000 for buildings and utilities.—*Holbrook Tribune-News*

## CALIFORNIA

### Mystic Maze Campaign On . . .

NEEDLES — Members of the Needles Gem and Mineral Club have launched a campaign to have the Mystic Maze Indian grounds preserved as a state park or historical monument. The club declared that the maze, located two miles west of Topock, represents an unusual facet of Indian lore which has long interested students and researchers.—*Desert Star*

### More Mexican Buying Asked . . .

CALEXICO — Increased shopping privileges for tourists in Mexico were supported in a resolution approved by the Cal Mexico Chamber of Commerce. The San Diego Chamber originated the move to have U. S. Customs set a \$200 limit along the California-Mexico border on merchandise which may be brought back duty-free from Mexico, as long as most of the merchandise is Mexican-made. A limit of \$10 has been in effect along the border since 1931. Under the new resolution, only \$10 of the \$200 worth could be in American-made merchandise.—*Cal Mexico Chronicle*

### Mt. Whitney Records . . .

MT. WHITNEY — Two records were believed broken by Mt. Whitney climbers in August. The first was by Richard Jones of China Lake, three years, nine months old, who is believed to be the youngest person ever to hike to the top and back. The second was set by Bob Lee of Ridgecrest who hiked from Whitney Portal to the top and back in eight hours and eight minutes.—*Inyo Register*



## Sea Rise Brings Suits . . .

**COACHELLA** — Two new suits, claiming more than \$68,000 for damages from the rising water of the Salton Sea, have been filed against the Coachella Valley Irrigation District. Mr. and Mrs. William Horsely, owners of two beach lots and of trust deeds on other shore property, filed a claim for \$64,502 in damages. A damage claim for \$3500 was filed by Mr. and Mrs. Thomas Pilkington who also own two beach lots. Engineers earlier reported that the rise of the waters may have stopped. Water level has dropped six inches in the last six months, they said. —*Yuma Sun*

## Deer Lands Closed . . .

**HEMET**—Santa Rosa Indian leaders again this year will forego potential revenue from use of reservation lands during the deer season by closing the area to hunting because of an extreme fire hazard. The reservation lands were closed last year for identical reasons. —*Hemet News*

## State Seeks Park Site . . .

**LONE PINE**—The State Division of Beaches and Parks has opened negotiations for the acquisition of property in the Alabama Hills for the formation of a state park. Most of the land involved is owned by the Los Angeles Department of Water and Power. The state plans a 27,000 acre park in the area. —*Inyo Register*

## Alpine Park Sanctioned . . .

**MARKLEEVILLE** — Acquisition of the Grover Hot Springs property near Markleeville in Alpine County for a state park was formally approved by the State Park Commission. The state has budgeted \$100,000 for first priority parcels for outright acquisition, together with a land use permit for United States Forest Service lands. —*Gardnerville Record-Courier*

## New River Bridge Planned . . .

**BLYTHER**—The antiquated bridge across the Colorado River on U. S. Highway 60-70 east of Blythe will be replaced providing the application of California and Arizona now before the Army District Engineer is approved. Plans call for a new bridge 60 feet upstream from the present one. The 28-year-old bridge would be removed upon completion of the new structure. —*Palo Verde Valley Times*

## NEVADA

## New Archeological Finds . . .

**MOAPA**—In a small rockshelter in Meadow Valley Wash near Moapa, Archeologist Dick Shutler, Jr., has uncovered evidence that prehistoric man lived in this area for over 4000 years. Inspection of the site by Southwest

# Something Really Different!

Our Editor, Fred Gipson, made the following pledge in an early issue of TRUE WEST:

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**LORDS OF THE SOUTH PLAINS**, by Norman B. Wiltsey. Absorbing story of the Comanches, most daring and proficient of all the wild Indian horsemen of the West. You meet the fierce Kwahadis of the Staked Plain, the Buffalo Eaters of the Canadian River country—all the divisions of this storied nation of red men in this condensation of their life history.

**HOW THE DUTCHMAN GOT HIS GOLD**, by John Taylor—who has been in the Superstition Mountains for years. He advances some new theories on the source of Jacob Walzer's treasure. A must for Lost Dutchman mine followers.

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drilling his victims neatly between the eyes and for this consideration was known as "The Undertakers' Friend."

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scientists recently attested to the significance of this discovery. At a depth of over six feet, early type projectile points were uncovered indicating the presence of a type of man not previously reported from Southern Nevada. Carbon samples from a fire hearth at this level, age-dated by the Carbon 14 Method, reveal occupancy by these people about 4050 years ago. Material from a hearth at 54 inches indicates an age of over 3870 years. In the next layer above were located pieces of pottery and typical corner-notched projectile points of the Basketmaker Indians who lived here about 1600 years ago. Pueblo pottery in the next level shows that these Indians, the builders of the famed Lost City or Pueblo Grande de Nevada, occupied the site until about 1150 A.D.

## Waterholes for Bighorn . . .

**LAS VEGAS** — A long-range program to establish waterholes for desert bighorn sheep has been developed by the U. S. Fish and Wildlife Service to increase the number of animals in Southern Nevada's huge Desert Game Refuge. Waterhole development has increased the available range, lowered disease potential, eased pressure on existing water supplies and has given lambing ewes a better chance to produce by allowing greater dispersal, officials pointed out. Ultimate aim of the program, adopted at other game refuges in Arizona and New Mexico, is to create waterholes at intervals of five miles or less to insure water reserves for a year or more where evaporation is rapid. One method is to protect waterholes from use by other animals which can find water elsewhere, by placing them in spots accessible only to bighorns. Concrete dams have been constructed across some gullies and waterways.—*Nevada State Journal*

## Visitors Taking Artifacts . . .

**CARSON CITY** — Out-of-state visitors have been carrying off invaluable relics in truckload lots from Nevada's archeological deposits, Thomas W. Miller, chairman of the Nevada Park Commission declared following an inspection tour of the areas involved. Evidence was found, he said, that the relics are being systematically looted and that some of the finest of them have been carried off. Miller said some non-Nevadans have filed uranium claims of doubtful value and are leasing their land to relic and artifact hunters in violation of Federal and State laws.—*Reese River Reveille*

## Industrial Data Released . . .

**CARSON CITY** — A 160-page book, *Industrial Nevada—Basic Data*, has been published by the Nevada Department of Economic Development. The publication presents a comprehensive economic picture of the state broken down by localities. Those desiring free copies of the book can receive them by writing to the department in Carson City. — *Reese River Reveille*

## Chukars on Way Back . . .

**CARSON CITY**—Chukars appear to be on their way back to a population level equal to that achieved prior to the harsh winter of several years ago which almost wiped them out, the State Fish and Game Commission reports. A parallel condition exists with the sage grouse. Both game birds show an increase, but their numbers still are very low and a severe winter could be disastrous.—*Reese River Reveille*



## NEW MEXICO

### State Drouth Worsens . . .

SANTE FE—Weather Bureau experts report that drouth conditions in New Mexico are getting worse instead of better. July and August rains helped some, but not enough. Rain during the characteristic shower season was average in the northeast portion of the state but only seven percent of normal in the rest of the state.—*Alamogordo Daily News*

### Coronary Rate Low . . .

WASHINGTON, D. C.—New Mexico's rate of coronary heart disease among white males is the lowest in the nation—191.1 deaths per 100,000 population. New York's rate, which was highest in the nation, was 393.8 per 100,000. These figures were released by the Public Health Service and are based on a recent study. —*Salt Lake Tribune*

### Rogers Museum Opens . . .

TAOS—The Millicent A. Rogers Foundation Museum was scheduled to open in Taos. Featuring Indian and Spanish Colonial art, the museum will make available for public viewing the rare and unusual collection of Indian

jewelry, pottery, blankets, baskets, paintings by Indian artists, bultos, re-tablos, kachinas and other art objects of a related nature which were gathered by the late Mrs. Rogers during her lifetime.—*El Crepusculo*

### Find Early Evidence of Man . . .

PORTALES—A stone spear point embedded in the neck vertebra of an elephant which is known to have become extinct on this continent at least 10,000 years ago, was discovered near here at the Sam Sanders gravel pit in Blackwater Draw. A bulldozer uncovered the gigantic skeleton of the elephant while pushing aside the clay and sand that lies above the gravel deposit. —*Alamogordo Daily News*

### Tribe Signs Plant Contract . . .

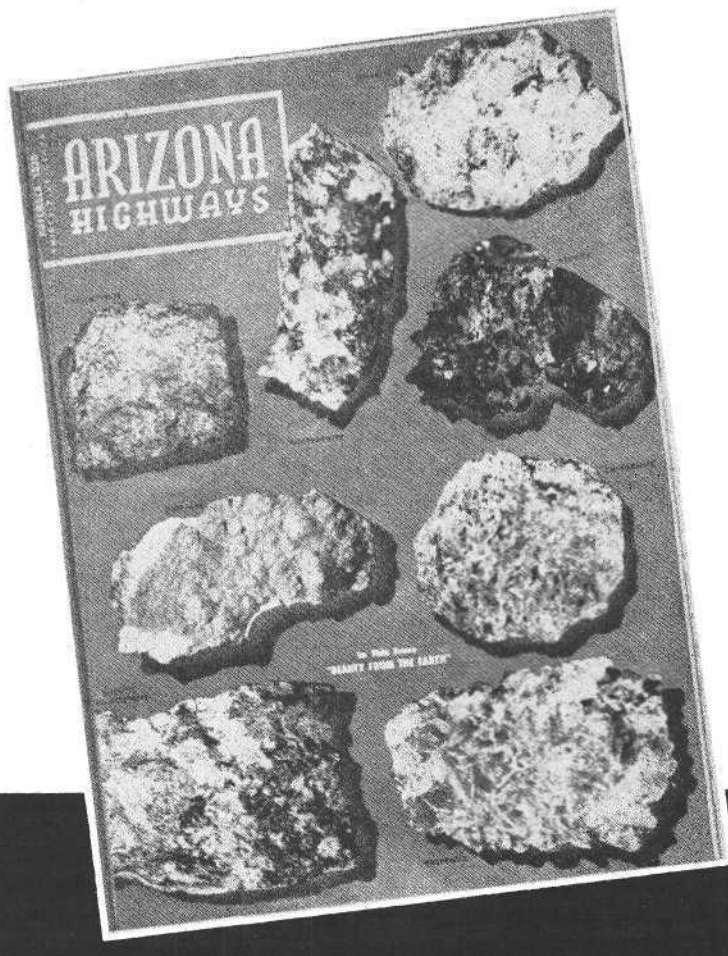
GALLUP—Navajo Tribal officials and the Meyer Furniture Company of Los Angeles have signed a contract for the erection of a furniture plant. A temporary plant is expected to be built by the firm at Gamerco. Plans are to build a permanent plant on land to be donated to the tribe for industrial use by the Gallup Chamber of Commerce.—*Adahooniligii*

### Carson Park Dedicated . . .

TAOS—The Kit Carson Memorial State Park was dedicated at special ceremonies held in late September. The bill providing for establishment of the park was approved by the Legislature in 1951. State officials from Kentucky, where the famous scout was born, and Missouri, where Carson was raised, were invited guests of the ceremony.—*El Crepusculo*

### New Forestry Booklet . . .

ALBUQUERQUE — *People and Timber*, a non-technical publication by the U. S. Department of Agriculture, has been released. It outlines the timber situation in the nation as revealed by a three-year survey done by the Forest Service in collaboration with state agencies, forest industries and other interested organizations. It is of particular interest to people of the Southwest where timber supplies are not abundant and where the proper management of forest land is so important for the protection of vital watersheds, a Department spokesman said. A copy of Miscellaneous Publication 721, *People and Timber*, may be obtained by writing to the Forest Service, U. S. Department of Agriculture, 510 Second Street NW, Albuquerque, New Mexico.—*Sandoval Journal*



## Minerals IN FULL COLOR

Don't miss the November issue of colorful ARIZONA HIGHWAYS Magazine with the big feature on mineral collecting in Arizona by A. L. Flagg, president of the American Federation of Mineralogical Societies. This feature is illustrated with many full-color photographs of mineral specimens. An article of interest on photographing minerals in color is also included in this issue.

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## UTAH

### Fifth Park Completed . . .

SALT LAKE CITY—Five roadside rest parks are now in operation in the state, road officials announced. Fall construction schedules call for the completion of an additional park every 10 days as long as weather will permit. The program will then be renewed next spring, and by next fall the state will be dotted with roadside rest parks. Eventually, the state wants to have rest parks about 50 miles apart on every major highway in Utah. Purpose of the parks is to give the motorist a safe place to pull off the road and rest when he gets too tired to drive.—*Salt Lake Tribune*

### Road Contract Awarded . . .

KANAB—The first bid on construction connected with the \$421,000,000 Glen Canyon Dam project was let in Kanab by the Bureau of Reclamation to the Strong Company of Springville. That concern will build the first five miles of the 25 mile road from Bitter Springs on Highway 89 in Arizona to the damsite for \$1,156,000. This section of the road is expected to be the most expensive with some rock cuts up to 200 feet.—*Southern Utah News*

### Interstate Route Protested . . .

VERNAL — Utah and Colorado highway officials have decided to work for the designation of U. S. 6-50 between Denver and Salt Lake City as a federal interstate highway. Following the announcement, officials of the National Highway 40 Association and Vernal business and civic leaders pro-

tested the action taken by the two states, maintaining that U. S. 40 was the only logical route for inclusion in the interstate network. Proponents of the U. S. 6-50 route point out that this more southerly route is at lower altitudes, would serve southeastern Utah as well as Carbon, Emery and Grand counties and would afford better connections with New Mexico and Texas.—*Vernal Express*

### Flaming Gorge Project . . .

VERNAL—Aside from road building, most of the activity at the Flaming Gorge Reclamation Damsite is core drilling to test the strength of the quartz and quartzite walls and floor of the canyon. The search is still under way for the best site for a permanent village which will, at the height of construction work on the dam, be the temporary home of from 4500 to 5000 persons. The dam, first unit of the Upper Colorado River Development project to be built in Utah, will not be located at Flaming Gorge, but some 20 to 30 miles downstream from this scenic attraction in the Green River.—*Vernal Express*

### Tribesmen Receive Clothing . . .

SALT LAKE CITY—Upwards to 100 tons of used clothing was distributed to Navajo and Hopi Indian families in the Four Corners area by Utah National Guardsmen. Maj. Gen. Maxwell E. Rich, adjutant general of the Guard, said Operation Friendship was a huge success, thanks to the painstaking efforts of Utahns to search storage closets for unused clothing.—*Salt Lake Tribune*

### College Enrollment Highest . . .

SALT LAKE CITY—Utah leads the nation by a wide margin in the proportion of its total population and its college-age population (18-21 years of age) that are actually enrolled in institutions of higher learning within the state, Utah Foundation researchers reported. In 1955, 3.3 percent of Utah's population was enrolled in college, compared with 1.6 percent for the nation as a whole.

### Speed Damsite Roads . . .

KANAB—Prospects appear good for early development of an access road from Kanab to the Glen Canyon damsite, Utah and Arizona state highway commissioners indicated. Members of the two state highway groups met recently with representatives of the Bureau of Reclamation and the Bureau of Public Roads to coordinate efforts of Utah and Arizona in building access roads to the site. The meeting was principally to determine where roads from each side of the border will meet.—*Salt Lake Tribune*

### River Experts Needed . . .

SALT LAKE CITY—The Bureau of Reclamation announced an urgent need for personnel of many skills in connection with the recently authorized Upper Colorado River Storage Project. Most pressing need is for surveyors. In addition the project will require additional engineering and cartograph draftsmen, construction inspectors, soil technologists, agricultural economists and civil engineers. Vacancies exist at Carson City, Nevada; Durango and Grand Junction, Colorado; Rock Springs, Wyoming; and Ogden, Spanish Fork, Vernal and Kanab, Utah. Candidates may apply by mailing a standard government application form 57 to Box 360, Salt Lake City.—*Salt Lake Tribune*

### Dinosaur Returns to State . . .

HANKSVILLE—Preparations have been made for the mounting of the sauropod dinosaur skeleton discovered in 1954 near Hanksville, at the University of Utah museum. Discovery was made by a team of Yale University paleontologists who shipped about half of the fossilized bones to New Haven, Connecticut, where preliminary preparations were made for mounting the skeleton. When it was discovered at Yale that available space would not accommodate the display, arrangements were made to turn the bones over to the University of Utah. The rest of the bones found by the Yale expedition were brought to the University of Utah last summer. Assembling and preparing the skeleton for exhibition will take an estimated two years.—*Salina Sun*

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# MINES and MINING

## Twentynine Palms, California . . .

Prospector-miner P. O. Dorr has sold 1400 acres of valuable tungsten property in the New York Mountains east of Twentynine Palms to the Crescendo Mining Co. of Las Vegas, Nevada, in a joint venture with Western Uranium Corporation, Trinity Oil and Gas Co. and Tacks Oil Corporation. Sale price was announced at more than half a million dollars. The new owners plan to spend \$100,000 to develop the molybdenum and rare earth prospects on the acreage. In addition to important copper, manganese and uranium deposits, the mine reportedly has the third largest tungsten deposit in the United States. The new owners said another \$300,000 is earmarked for a 200-ton mill to handle company-mined ores and to do custom milling.—*Pioche Record*

## Farmington, New Mexico . . .

Plans for the drilling of 120 to 125 gas wells on the Southern Ute Indian Reservation were told by the Murchison Trust of Dallas. The concern said wells would be drilled on 40,000 acres of Indian land in the Mesa Verde field. All the wells will be development wells and will be drilled by contractors.—*Mining Record*

## Goldfield, Nevada . . .

The 100-ton mill at Goldfield was scheduled to begin operation again following completion of a power hook-up. Purchase of the mill from the Newmont Mining Corporation reportedly took place in August following several months of negotiation. Sale price was estimated at \$70,000. New owner of the property is the Monarch Milling and Mining Co. of Las Vegas.

## Bingham, Utah . . .

Kennecott Copper Corporation will add another first to its huge and historic open cut mine near Bingham upon completion of the new 5490 foot-level ore haulage tunnel from near the Copperton rail yards to the bottom of the massive pit. This 18,000 foot project probably will be the longest single underground mine tunnel in the United States.—*Salt Lake Tribune*

## Wenden, Arizona . . .

The Dasco Mines Corporation of Vista, California, announced plans for a 50 to 100 ton per day manganese flotation mill at Wenden, Arizona, to process ores from the Doyle manganese mine near that town. The mine had a production record of \$1,730,000 gross sales during 1953-54. Dasco has controlled the property for the past 20 years.—*Vista Press*

## Henderson, Nevada . . .

Reports indicate that a further expansion of titanium metal production capacity at the Titanium Metals plant at Henderson is planned. Output of titanium sponge is to be increased 50 percent and related melting facilities for the production of titanium ingots are to be expanded 80 percent. This program follows closely the announcement in March of a 67 percent increase over the original plant output of 10 tons per day. When both programs are completed late next year, the total capacity of the Nevada plant will be 25 tons of sponge and 30 tons of ingots daily. Overall cost of these additional facilities is estimated at \$15,000,000.—*Nevada State Journal*

## Gabbs, Nevada . . .

Standard Slag Co. is expanding its operations in iron ore mining in Nevada. For the first half of this year, iron ore shipments by Standard have averaged about 40,000 long tons per month, all of which went to Japan. Current shipments are from the Stokes mine near Gabbs and the Minnesota mine, about 16 miles from Yerington. At the present time, exploration programs are in progress in the Kingston Mountains of California, south of Pahrump Valley in Nevada and in the Cortez range of central Nevada.—*Tonopah Times-Bonanza*

## San Juan County, Utah . . .

Standard Oil Company of Indiana has scheduled a 5200 foot test of the Mississippian formation in the Elk Ridge sector of San Juan County. The company has perfected a federal unit comprising 38,550 acres of land, none of it in the Navajo Reservation.—*Salt Lake Tribune*

## Washington, D. C. . . .

The General Services Administration announced extension of the purchase program for manganese, mica and beryl. The metallurgical grade manganese program has been extended to January 1, 1961 and raised from 19,000,000 to 28,000,000 long ton units. The mica and beryl programs have been extended to June 30, 1962.—*Humboldt Star*

## Washington, D. C. . . .

The government program for buying tungsten was expected to begin immediately. A delay occurred in the General Services Administration offices because the order, passed by Congress and approved by the President, had not been signed.—*Nevada State Journal*

## Ione, Nevada . . .

Reactivation of an old Nye County cinabar property four miles south of Ione was announced by officials of the Uranium Exploration and Copper Co. of Las Vegas. The ground is being purchased from Charles Keough and James Larson, it was reported. The mine had a successful productive history early in the 1900s but was closed down in 1918 after producing 18,000 flasks of mercury.—*Pioche Record*

## San Juan County, Utah . . .

Shell Oil Co. announced that its North Desert Creek No. 1 wildcat in San Juan County has completed potential tests of 1440 barrels of oil per day. The oil of this discovery well has a gravity of 42.0 and gas-to-oil ratio is 660:1. This is one of the biggest flowing wells ever completed in the state.



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## URANIUM NEWS

# Miners Urged to File Location Data to Protect Surface Rights

Claimholders of unpatented mining claims located on lands of the United States prior to July 23, 1955, should take immediate steps to protect themselves against attempts to challenge the validity of those claims.

Before a determination of validity can be made, the U. S. Department of Interior is required to publish locally a notice to mining claimants for determination of surface rights. A copy of any notice must also be sent to each person who has filed a request for such notice.

Unpatented claimholders wishing to protect their interest should, therefore, immediately file in the Recorder's office in the county where the claim is located, a request for a copy of any "notice to mining claimants." This request should contain the following information regarding each claim, as set forth in paragraph (d), sec. 5, Public Law 167, of 84th Congress, 1st Session:

1. Name and address of person making request;
2. The date of location;
3. The book and page of the recordation of the notice or certificate of location; and
4. The section or sections of the public land surveys which embrace such mining claim; or if such lands are unsurveyed,

either the section or sections which would probably embrace such mining claim when the public land surveys are extended to such lands or a tie by courses and distances to an approved United States mineral monument.—*Mineral Information Service*

### New Uranium Mill at Mexican Hat Made Ready

Texas Minerals Co. was expected to have its new uranium mill at Mexican Hat, San Juan County, Utah, in operation by September. The firm is a joint subsidiary of the Texas Co. and New Jersey Zinc Co.

The mill will employ between 100 and 110 men, it was announced. The company plans construction of a 70-home townsite nearby on land leased from the Navajo tribe.

Chief source of ore for the new mill will be the Happy Jack Mine in White Canyon, but 20 percent of capacity is expected to be reserved for custom ores from other than White Canyon and Monument Valley areas, it was reported. The mill will use water from the nearby San Juan River and power from a high voltage line to be constructed to the mill site.—*Salt Lake Tribune*

The AEC predicted that construction of new facilities for ore processing in this and other free world nations which are now underway or definitely planned should increase the total annual production of uranium oxide to 30,000 tons. Three mills were under construction during the first half of 1956.—*Mining Record*

### Lawsuits Threaten Following Hectic Grants Claim Rush

The late August Grants, New Mexico, uranium rush turned out to be a prospector's nightmare and a lawyer's dream. The AEC released 11,875 acres at 10 in the morning and by sundown 1100 claims had been staked. The question of how many of these claims overlap and how many are invalid may keep the courts busy for the next decade.

Declared one prospector following the rush: "If anyone gets any good out of this it will be our grandchildren." — *Grants Beacon*

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### Uranium Industry Out of Speculative Era Says AEC

The United States is not dependent on any overseas source for its uranium, nor is uranium mining any longer in the twilight zone that lies between wildcat speculation and recognition as a stable industry, an Atomic Energy Commission spokesman recently disclosed.

Dr. Jesse Johnson, director of raw materials for the AEC said the nation's uranium industry is not only operating at a more productive level than ever before, but is much more stabilized and looking ahead to a permanent commercial market.

"We have noticed a decided change in operating plans through 1966. Companies are talking in terms of a commercial market which will begin some time in the 1960s and will be a permanent market," he declared.

"Exploratory drilling by private companies is greater now than the combined drilling by the AEC and private firms in any year from 1951 to 1954," Dr. Johnson added.

In its 20th semi-annual report, the AEC said: "Production of uranium from all free world sources continued to increase during the first half of 1956. The rise in domestic production was especially rapid and the United States is now the free world's leading producer. Ore production exceeded processing capacity, with ore being stockpiled at the locations of new mills." — *Reese River Reveille*

### Atlas Becomes Partner in Moab, Utah, Uranium Mill

Uranium Reduction Co. has agreed to let financier Floyd B. Odlum's Atlas Corporation become a partner in development of the nation's largest independent uranium mill at Moab, Utah. URC, in which Charles A. Steen holds controlling interest, has agreed to sell about a 30 percent equity interest to Hidden Splendor Mining Co., a wholly owned subsidiary of Atlas Corporation.

In return, Atlas' Ute Milling Co. affiliate will not construct a large uranium concentrator near La Sal, Utah. AEC approval was pending for the project.

The historic accord would have the effect of committing virtually all presently known major uranium ore reserves in the Big Indian District—one of the largest and richest in the world—to the \$8,500,000 mill scheduled to start operation this fall.

This would assure both miners and employees of the mill more permanent employment and would have the effect of greatly stabilizing economic development in Grand and San Juan counties. Otherwise, total mill capacity would have greatly out-run presently known ore reserves in the area.—*Salt Lake Tribune*

Atlas Corporation reported that its Almar Mine in the Big Indian District of San Juan County, Utah, contains a uranium ore body in place valued at approximately \$36,000,000, making it one of the nation's major deposits of uranium. The Almar ore bodies have been established by more than 200 core drill holes for an aggregate of over 100,000 feet of drilling.—*Salt Lake Tribune*

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## Little Colorado Region Needs Mill, Miners Say

The middle Little Colorado River valley may become one of the most productive uranium areas in the nation, miners believe. Basis for this belief is the fact that some very rich ore deposits are being located in this area, almost midway between the profitable deposits in the Cameron area and the southeast extremity of the uranium strip near St. Johns.

Greatest problem of the middle Little Colorado prospectors and miners is the long haul needed to deliver ore to a mill. High grade ore can be shipped profitably to Tuba City, Bluewater or to Shiprock, but so much of the ore, even of commercial grade, only would be profitably handled if a mill were located within 100 miles of the source.—*Holbrook Tribune*

## SEC Halts U-Stock Sales By Nine Small Companies

The Securities and Exchange Commission has called a temporary halt to sales of stock by nine small uranium, oil and related companies. It said the companies failed to disclose the facts relating to an indictment against a financier who is the principal underwriter for each of the nine stock issues.

The nine companies temporarily barred from selling any more of their stock in September were Beehive Uranium Corporation, Salt Lake City, Utah; Cortez Uranium and Mining Co., National Lithium Corporation, Teton Oil and Minerals, Inc., and Wing Ee, Inc., all of Denver; Dalmid Oil and Uranium, Inc., and Diversified Resources, Inc., both of Grand Junction, Colorado; Strategic Metals, Inc., Tungstonia, Nevada, and Iola Uranium Corporation, Chicago.—*Humboldt Star*

## Prospectors Warned Against Dangers of Abandoned Mines

The Bureau of Mines has issued a warning to prospectors that many abandoned mines are death-traps, and inexperienced persons investigating them without proper equipment and skill are courting trouble.

The bureau pointed out that not only does the prospector face the danger of cave-ins or injury by climbing rotted ladders, he also is periled by gas or lack of oxygen in the shafts.

In some mines deteriorated explosives, which were left underground when the mine was closed, may go off at the slightest jar.

The Atomic Energy Commission reports that it is purchasing \$47,000,000 worth of beryllium to use in atomic reactor plants. Two firms, Beryllium Co. and Beryllium Corp., each will sell it approximately 500,000 pounds over a five year period, the AEC said. The metal is utilized as a moderator in atomic reactors.—*Grants Beacon*

Continental Uranium Corporation announced that sufficient ore has been blocked out in a joint venture in the Deer Flats area of San Juan County, Utah, to merit development of a uranium mine. One test hole showed 12 feet of .42 percent U308. Further development is scheduled to establish the full extent of the ore body and to locate a mine portal.—*Salt Lake Tribune*

## AEC Modifies Payment Rules on Development

The Atomic Energy Commission has modified Domestic Uranium Program Circular 5, Revised, regarding the payment of development allowances to producers of uranium ore.

Circular 5, Revised, which remains in effect until March 31, 1962, establishes guaranteed prices for uranium-bearing carnotite and roscoelite ores of the Colorado Plateau area.

Under the circular, sellers desiring to deliver more than 1000 short tons of ore during any calendar year are required to enter into a contract with the AEC. The modification eliminates the requirement that such sellers submit proof that funds received as development allowances have been spent for development or exploration during the contract period or within six months thereafter.

The modification was made necessary by changed conditions in domestic uranium exploration and development. Development expenditures, in early small-scale uranium mining activities, were generally incurred while mining progressed.

Elimination of the accounting provision will permit maximum use of the development allowance as an incentive to uranium exploration and development, and also will simplify administration of the allowance program.—*Dove Creek Press*

Anaconda Co. officials report that it may be 10 more months before the Woodrow mine north of Laguna in Valencia County, New Mexico, is again in production. The mine was the scene of the first uranium mine fatality in the State. A worker was killed there in July when a section of the mine caved in. The company is constructing a new shaft to bypass the cave-in.—*Grants Beacon*

## ANSWERS TO DESERT QUIZ

Questions are on page 10

- 1—On the sand dunes at dusk.
- 2—Salton Sea.
- 3—Polaris.
- 4—Washingtonia Palm.
- 5—Open-pit copper mines.
- 6—Pope.
- 7—Tinajas Altas.
- 8—Searchlight.
- 9—Pinyon.
- 10—Roosevelt dam.
- 11—Green River.
- 12—Arizona.
- 13—Vulture mine.
- 14—Lizard.
- 15—Red.
- 16—In the bottom of Grand Canyon.
- 17—Author.
- 18—Flagstone.
- 19—Hopis.
- 20—Saguaro.

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# GEMS AND MINERALS

## Four Major Petrified Wood Belts in West are Traced

By BUCK JENKINS

Long Beach, California  
Mineral and Gem Society

There are four major petrified wood belts in America's Intermountain West. They correspond roughly to the long, thin uplifts of rock which form our Western mountains. The best known of these is scattered

through the sedimentary rocks topped by lava overflows which form the mountains in a large part of Arizona, Utah, Colorado and Central Wyoming.

Most Arizona wood is predominantly red, its agate structure presumably taking its color from the iron impurities in the ash around it.

The second major wood belt is in a mountain range twisting through the middle of the Jackson Hole-Yellowstone Park area. It is found in an uplift of 14 layers of basalt, ash and lava containing unknown numbers of logs, limbs and twigs, and is named Absaroka after the traditional name for the Crow Indian country. This magma buried these ancient trees and burned them, replacing the wood with quartz and amethyst crystals, clear agate, many types of plume and moss.

Across Idaho from the Absaroka are the Cascades, geologically a recent uplift of volcanoes and dikes which sent great sheets of lava across Oregon's high desert, burying vast forests and making central Oregon another profusion of limb casts. It seems that any type of petrified wood found in Wyoming can be found in Oregon, so geologically interrelated are these areas.

The fourth great wood belt does not correspond to any mountain range. In fact, it seems that because of the age divergence between Washington and Nevada woods, the opalized woods common to both areas do not really form a belt at all.

Washington wood lies in the basalt flows of Eastern Washington and is characterized by the false center, a feature which results from two different agatization processes in the same specimen.

Nevada wood is found in scattered logs which are remnants of an earlier time and which resemble Washington wood only in that they are opalized. Only a small per-

centage of Washington and Nevada woods polish well.

Some other classic locations defy classification by area. They are limited, local spots that produce exciting material. These include the bogwood near Tonopah, Nevada, where small limbs and reeds surrounded by algae in an array of colored pin points of partially opalized agate are found.

Nigger rock wood from Eastern Oregon is blue in color with softer grains replaced by orange jasper and has false centers in patterns different from the Washington wood. Boron wood has radiated orange agate hearts surrounded by opal-like material.

### TUMBLING PROCEDURE FOR AGATE IN HEXAGONAL DRUM

H. L. Zollars of El Paso, Texas, gives the following recipe for tumbling agate family gems to high polish: Use hexagonal drum, 18 inches diameter, seven inches wide, 45 pound capacity. Add two pounds 80 grit silicon carbide grains and some water to the gem material and run drum at 45 rpm. After 24 hours, add two more pounds of 80 grit.

In 36 hours add one pound 80 grit and run for 36 more hours. Then wash thoroughly. Put the material back in the drum with a half pound of commercial Linde A Ruby Powder and 1 gallon of small leather chips plus a little water. Run the drum at 30 rpm for eight hours.

Add another half pound of Linde A, and run for six hours at 25 rpm. Wash and replace in drum with a large package of Tide detergent. Run at 25 rpm for eight hours. Remove and bag.—*The Voice*

John Sinkankas suggests that the lapidary always follow a definite system when grinding cabochons and not skip around from place to place on the stone. Try to work the shape down as a whole, taking an even amount of material off on each pass around the stone. This initial shaping is the key to success and must not be neglected.—*The Braggin' Rock*

According to A. G. Parser, Linde A polishing powder on leather is considered best for tigereye after the stone has received a fine sanding. This stone is naturally brownish, honey-toned and blue. Red tigereye is obtained by heat-treatment.—*The Braggin' Rock*

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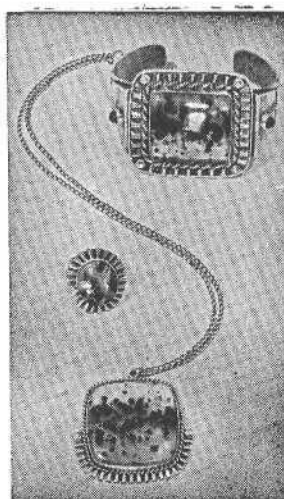
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The needs of this hobby have been recognized by Karl von Mueller in his book, *Rock Club Manual*, which spells out every step local clubs should take to assure success—from proper methods of organization, how to conduct meetings, election of officers, equipment needed, field trip procedure, shows, to the reorganization of clubs which no longer function properly.

Von Mueller presents hundreds of sound ideas which touch on every phase of club activity. The smallest detail is covered in the manual such as preparing publicity releases, for example, or what the members' role should be during programs.

Sample gem and mineral society by-laws, a list of state officers handling geological

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and mining activities for the individual states, names and addresses of publishers, color slide suppliers and courtesy movie suppliers are just a few of the helpful sections in this book of ideas.

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## MIDWEST COLLECTING FIELDS COVERED IN NEW BOOK

Rockhounds planning collecting trips to the Midwest will be interested in a new booklet by June Culp Zeitner, *Midwest Gem Trails*, a field guide for gem hunters, mineral collectors and tourists.

The author concentrates on over 20 of the more famous collecting spots with summaries on each state closing out the book.

Published by Mineralogist Publishing Company, 329 S.E. 32nd Ave., Portland 15, Oregon; illustrated; 64 pages; paper cover; \$2. This book can be purchased directly from the publisher or from Desert Crafts Shop, Palm Desert, California. California buyers should add three percent sales tax.

## GIANT JADE BOULDER FOUND IN ALASKA

J. L. MacKechnie of Petersburg, Alaska, reports that the world's largest pure jade nugget has arrived in Kotzebue, Alaska, after a five-day, 200 mile trip from Jade Mountain where it was mined by the Imperial Jade Company.

The huge jade boulder weighs 20 tons, is 16 feet high and five feet wide. It would provide enough stone to fill 4,000,000 ring settings, according to the company.

The mining firm announced that it will not sell the stone in small lots for fear such sales would ruin the jade jewelry market. The giant nugget will be sold intact, if possible, to someone who would agree to use it for a monument or statue.

## SHAPE CABS WITH TIP ON TOP BEFORE SANDING

When forming a cabochon on the grinding wheel, never hold its high part or top squarely against the wheel. If you do, you may cause the normally rounded top to flatten out, and the only way to sand such a stone evenly is to wear the rest of the cab down to conform with the misshaped top.

To avoid this, let the high point of the cab work into a slight tip when grinding. This tip should not be exaggerated, but only should be slightly higher than the outline of the cab. In sanding, this tip easily can be removed. — G. Dale Kraklow in *Gems and Minerals*

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Gem and mineral clubs that make frequent field trips will soon discover that the same car owners drive their cars on every outing while a certain few always will be passengers. To avoid misunderstandings and hard feelings, the club should agree to charge a nominal fee to each passenger and turn this over to the drivers. It is a matter of a few cents from each passenger going a long way toward taking a burden off of the owner and driver.—Karl von Mueller's *Rock Club Manual*

Lester Davis is the new president of the Hutchinson, Kansas, Gem and Mineral Club. Ruth Sanders was re-elected secretary. — *Quarry Quips*

## HIGHLAND PARK

### THE LAPIDARY'S STANDARD OF VALUE

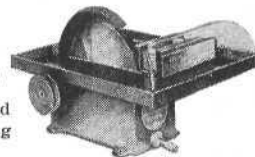


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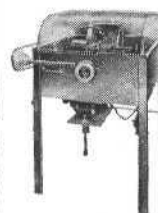
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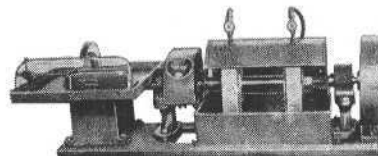
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## CLUB-OWNED EQUIPMENT SHOULD BE TOP GRADE

There are a number of gem and mineral clubs that own lapidary equipment which they maintain in their own or rented rooms. Most of the clubs have workshops and provide their members with experience and training in the use of these tools.

The main drawback to club-owned equipment is that after the members learn to use it, they buy their own equipment so that in the end the club equipment lies idle. This condition can be avoided in the beginning if the club will buy larger and heavier

equipment than the average member is ever apt to consider purchasing.

This means larger saws, heavier grinding and polishing equipment, specialized equipment for making spheres, etc.—Karl von Mueller's *Rock Club Manual*

It is a poor practice, and sometimes very dangerous, to tighten a nut too tight against the flange when putting in a new emery wheel. A grain of sand or emery grit may be lying between the flange and the wheel, and excessive pressure against it may cause the wheel to break.—*Rockhound News and Views*

## WOOL REMOVES DULLING OILS FROM HANDS ON GEM STONES

Every time I anticipate showing crystals or polished pieces to a non-rockhound, I am reminded of a practice at the Bureau of Printing and Engraving in Washington, D. C. There, before each new impression for currency or bonds, wide spread hands, palms down, are slicked rapidly over the plates to lubricate them, for long ago this institution discovered that an inexhaustible supply of the finest oil necessary to grease the engraving plates between impressions was constantly at their fingertips—oil exuding from the hands of the press operators.

No matter how flawless the crystal—or how perfect the polish on a cab, an irresistible impulse seems to seize the viewer. He will want to glide a thumb or finger over the shining surface. Curiosity or a desire to see if a final rub with the fingers might not add a new high light often leaves only the oils from the hand on the stone.

I have learned to carry a small fluff of lamb's wool when showing off a prize specimen. Lamb's wool can be purchased in small cartons the same as cotton. When I notice a dulling film beginning to collect, I retrieve the stone, rub it briskly with the wool and instantly the brilliant polish returns. Lamb's wool is invaluable when setting up a display case and will give an added sparkle to all your polished stones.—Mary Blair in the Montebello, California, Mineral and Lapidary Society's *The Braggin' Rock*

## SMALL ALL-GLASS SHOWCASES ARE EASY TO MAKE AT HOME

The making of small all-glass showcases to display individual specimens is simple and their use will focus attention upon the specimen. The edge of the glass panels should have a clean cut straight edge. Edge sharpness can be removed with a fine emery cloth, on the abrasive wheel or lap.

It is best to let the front, back and top plates overhang slightly. Either plate glass or 2X crystal sheet glass will do. For the glass-to-glass joints of small showcases use fiber type diamond showcase cement. This type case does not require felt on the joints.—*The Mineralog*

Monterey Bay, California, Mineral Society members installed the following new officers at a recent meeting: Wally Bast, president; Mrs. Helen Russell, vice president; Mrs. Rhoda Hutchings, secretary; Mrs. Betty Hillman, treasurer; Arthur Scattini, director; and George Wells, federation director. Carry-over board members include Dr. K. W. Blaylock, Wayne Booth and Robert Scheffler. H. B. Stoddard was named publicity chairman and Frank Demerast, show chairman.

Opals in normal wear absorb their weight in water every year—from skin and the air. But, if stored out of water they become dry, brittle and likely to crack. Wiping with a damp cloth from time to time can be substituted for water storage. Being soft, opals scratch easily. Scratches can be polished out and a chipped edge can be removed, but cracks cannot be repaired.—*Shop Notes and News*

Howard Blackburn has been elected president of the San Diego, California, Lapidary Society. Also named to office were Lee Harrison, first vice president; Leo Lovato, second vice president; Eleanor Blackburn, secretary; Edward Bohe, treasurer; and Alice Totten, historian.—*Shop Notes and News*

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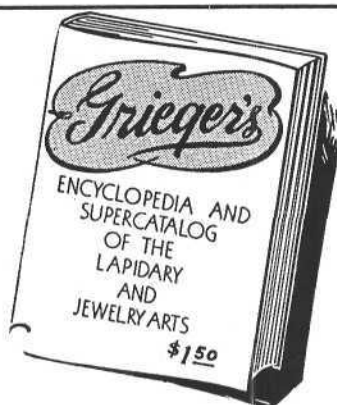
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## IMPERFECTIONS PRESENT IN MOST UNPOLISHED STONES

Although many gemstones have been endowed by Nature with brilliant, lustrous faces and display reflections from their surfaces, yet their form is never such as can reveal to full perfection the optical properties upon which their charm for jewelry demands.

Apart from irregularities of shape due to interference with growth, the natural faces are rarely perfect unless the crystals are very small; they are often more or less stepped or pitted, and if more than an inch or so across, are obviously uneven.

The crystals may, moreover, have been broken either through some movement of the rock in which they were formed, or in the course of extraction from the matrix in which they lay; or they may have been roughened by attrition against stones of equal or greater hardness, worn by the prolonged action of water, or etched by solvents.

Beautiful octahedral diamond or spinel stones have been mounted without cutting, but even their appearance might have been greatly improved at the lapidary's hands.

The fashioning of gemstones is only the first stage in their treatment if they are intended for use in jewelry. The second and final stage is to provide means for holding them. Sometimes the form chosen for the setting will dictate the shape that is imparted to the stone to be fixed in it.

In ancient times little or no attempt was made to shape gemstones, and all that was done to improve their appearance was to smooth or polish the natural form. Since the stones were coveted merely for their surface coloration and not for the internal glow, they were usually strung and worn as a pendant or in a necklace and there was felt to be no need to keep the shape to certain proportions.

By far the oldest of the modes of cutting in use at the present day is the rounded shape known as cabochon from a French word which is itself derived from the Latin *Cabo*, meaning a head.

As long ago as the days of the Emperors in ancient Rome, the softer gemstones were treated in this manner. Such stones were supposed to be beneficial to those suffering from myopia (short sightedness), the reason being that transparent stones, if cut in the shape of a hollow cabochon, formed a lense. — Compton, California, Gem and Mineral Club's *Rockhounds Call*

## SACRAMENTO CLUB PLANS SHOW NOVEMBER 3-4

The Sacramento, California, Mineral Society will celebrate its 21st year with a show on November 3-4 at Turn Verein Hall, 3349 Jay St. Admission is free.

Heading the list of exhibitors will be the club's president, Lillian Coleman, who will show her jade and sphere collections, and past president Elmer Lester who will display his quartz family minerals. Every phase of the hobby, from fossil collections to general minerals and lapidary art, will be shown, the club announced.

In addition to adult displays, emphasis is to be given to the value of training junior members. Junior Supervisor Leigh Readdy is planning the largest junior division exhibit ever shown by the club.

New officers of the Nebraska Mineral and Gem Club of Omaha are John Hufford, president; Lloyd C. Fowler, vice president; and Mercedes Eisele, secretary-treasurer. — *Rear Trunk*

Points to remember in editing a gem and mineral club bulletin are: Have your club name and address listed in each and every issue; If your club welcomes visitors, be sure to list the time and place of your meetings; The editor's name should appear in each issue and, if space permits, the names and addresses of officers; Try to include a complete but concise report of club activities during the past month and a schedule for the next month; If space permits try to include several informative or technical articles in each issue. — Karl von Mueller's *Rock Club Manual*

## FREE GEM MAP OFFERED BY BATTLE MOUNTAIN CHAMBER

A free brochure for rockhounds has been published by the Battle Mountain, Nevada, Chamber of Commerce. The publication contains a map which covers 250 square miles of the Battle Mountain area with 20 gem collecting fields listed. Materials include chrysocolla, turquoise, silver, azurite, gold, galena, cerussite, sphalerite, barite, antimony, lead, jades, cinnabar, opalite, boronite, cobalt and many others.

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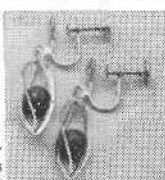
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## STAUROLITE CROSSES MAKE RARE AND VALUABLE GEMS

Among rocks which crystallize into strange and beautiful forms which make them desirable and valuable, is staurolite, familiarly known as Fairy Stone Crosses, and sometimes called staurolite.

It is a silicate of quite complex composition, containing aluminum and iron, with water chemically combined. It crystallizes in the orthorhombic system and always is found in metamorphic rocks, especially schists.

Staurolite's hardness is 7 to 7.5, its color is dark brown and specific gravity 3.6 to 3.7. This mineral is quite prone to crystallize in twin form resulting in crosses of various forms, which enhance their value as good luck charms, religious emblems and jewelry. When secured in situ, these crosses generally are covered with a softer material which is filed away, leaving the harder staurolite in its lovely form. Often, in preparing these stones for use or for sale, they are first cleaned and then soaked in linseed oil, after which they are carefully heated until the oil is carbonized, allowing the stones to be polished with a higher brown luster. Staurolites are more often opaque, but occasionally some are found which are translucent and quite valuable.—El Paso, Texas, Rockhounds' The Voice

All transparent minerals slow down the passage of light to a definite speed — one which is characteristic of that mineral. A diamond, for example, will reduce light to the speed of 77,000 miles per second. Normal light travels at 186,000 miles per second. Thus, 186,000 divided by 77,000 gives us the true refraction index of a diamond—2.41. Spinel checks light speed to 110,000 miles per second making its refraction index 1.69.—Border Braggins

The surface appearance of howlite has been compared to that of small cauliflower heads. This mineral is found in desert borax deposits and no crystals are visible on specimens discovered in western United States. Howlite has a solid, compact mass without marked structure. It is white with a subvitreous or dull luster. It has a hardness of 3.5 and is translucent to opaque.—Siskiyou Gem

The degree of polish on a cabochon can easily be appraised by using a ping-pong ball and a doctor's stethoscope. Merely hold the ball tightly over the end of the stethoscope and slowly rub it over the gem surface. Any chatter or scratch noises will be quite apparent. Try it with different polished surfaces to become more familiar with the sounds made by each.—Mineralogist

The usual unit of measurement for a jewel is the metric carat, a term derived from the carob — a small oriental bean. There are 141 $\frac{3}{4}$  carats to an ounce, 2268 carats to a pound. A growing sentiment for dropping the terms "precious" and "semi-precious" and referring to all as gemstones has been noted.—Border Braggins



# AMATEUR GEM CUTTER

By DR. H. C. DAKE, Editor of The Mineralogist

L. E. Bowser gives the following information on gem drilling:

Most home gem cutters have one of the several types of hand grinders, like the *Handee*, or a drill press. Any of these can be readily adapted to drill gems, especially for the home gem cutter who is not interested in quantity work but in an occasional drilling.

Bowser uses a *Handee* drill with vertical stand and a foot reostat. As a drill, the head is cut from a suitable gauge size finishing nail, and chucked with point up. The working point of the nail is filed to a flat, resembling a screwdriver point. The average size hole for gem drilling is about one millimeter (about 1/25 inch). Any gauge finishing nail may be dressed down to this approximate diameter, using a file held against the nail while running in the chuck.

He uses 220 grit silicon carbide mixed with a small amount of "wet-lube," one of the numerous so-called "wetting" agents in wide commercial use. The concentrated solution you buy to mix with the water to wash your car is one of these new wetting agents and added to the silicon carbide seems to aid greatly in the drilling, since the surface tension of the water is changed, thus enabling the grit to work to better advantage.

The grit is fed or kept at the point of drilling. A small amount of soft wax or putty is built up around the point of cutting to keep the grit where it is most effective.

Good steady pressure of the drill against the work is indicated as is raising and lowering the drill at intervals to permit grit to enter the hole after it has been sunk for a short distance. After about five minutes of drilling it is advisable to refile the point of nail drill.

According to Bowser it takes about 12 minutes to sink a hole through 3/16 inches of jade, and about 10 minutes for the same thickness of agate. Diamond grit or 100 or 200 grit *Norbide* (Norton Company) will greatly reduce the cutting time, and would be an advantage where a considerable number of holes are to be drilled.

For commercial work, the mounted diamond or diamond sintered points are far faster and much more economical for mass production. Attention is called to the fact that these commercial mounted diamond point drills should be used according to instructions. They are a delicate, precision tool and are not intended to stand reckless handling and abuse.

To do a neat job of drilling a hole in a gem, slightly countersink the hole after it

is completed by the above technique. To countersink, slightly bevel the head of a suitable size finishing nail, mount in chuck, and countersink the hole very slightly. This will make a nicely finished piece of work.

The stone to be drilled should be firmly clamped into position below the drill. If the hole is drilled in the flat rough blank, then the blank may be readily held on a small board, or a table below the drill, using an ordinary iron screw clamp. Stones that are drilled are usually heart or pendant shapes, having rounded surfaces, and these, if drilled after being finished or shaped, may be cemented by dop wax to a small board to enable clamping the stone in a rigid position.

If the flat blank is clamped to a metal surface, a thin piece of leather may be placed under the stone. The leather will prevent the work from sliding, and gives a breakthrough surface for the drill as it emerges from the completed hole. Another advantage in drilling the hole in the flat blank, is that it will be found easier to make the hole straight.

The matter of speed of the drill will be readily found by a little practice and experience. Some types of gem materials will drill better with slower speeds, others require higher speeds. If your drill is fitted with a speed control reostat, you will soon learn the best speeds. In general gem drilling requires quite high speeds, for it will be seen that no matter what the speed of revolution might be, the peripheral speed of the drill at its center will be practically nil.

The nail drill technique suggested here is offered primarily for the home gem cutter who may wish at times to drill a few gems in an economical manner. There are many excellent special gem drilling machines offered by various lapidary equipment man-

ufacturers, for those who wish to do a greater amount of drilling, and for commercial mass production.

\* \* \*

Two kinds of glass are generally used in the cheap imitations of gems (1) crown, window or bottle glass carrying iron and titanium oxides as coloring agents, and (2) flint or lead glass carrying lead oxides.

The crown glasses are low in specific gravity, ranging from 2.53 to 2.57, unless a large amount of iron oxide has been added to produce a deep coloring thus causing the gravity to range from 2.66 to 2.75. The lead glasses usually have a much higher specific gravity, ranging from about 3.15 to 4.15.

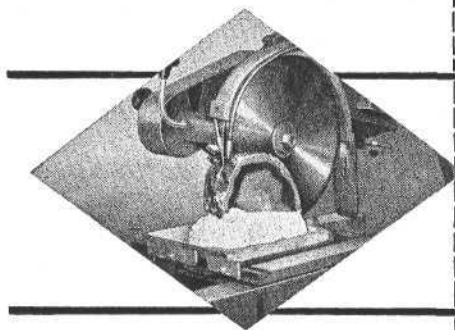
In all cases, the colored glasses will never show dichroism under the dichroscope. Under the polariscope, or tested between two sheets of Polaroid, the glasses will always appear and react the same as a natural gem of the cubic crystal system. The only exception to this rule is in the case of a specimen of glass which may be under strain. It may then present a pseudo anisotropic appearance which can be readily detected with a little practice and experience. Any thick mass of glass, like a glass bottle stopper is likely to show strain structure when viewed between two sheets (by rotating) of polaroid.

The term "paste" gem is generally applied to the better grades of lead glass, and these are also known as strass glass. Gem glasses may be manufactured in a wide range of refractive index, from about 1.4 to 1.68.

\* \* \*

Iron jewelry is an interesting study in itself, though one cannot call it beautiful. It consists of exquisitely fine castings after most intricate designs, entirely carried out in iron. Iron jewelry was popular during the earlier part of the 19th century, at a time when gold was scarce due to numerous wars. Some of the finest pieces were presented by the Prussian Government to those ladies who gave up their gold ornaments for the sake of the Fatherland.

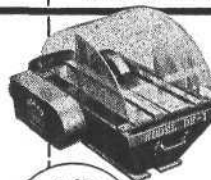
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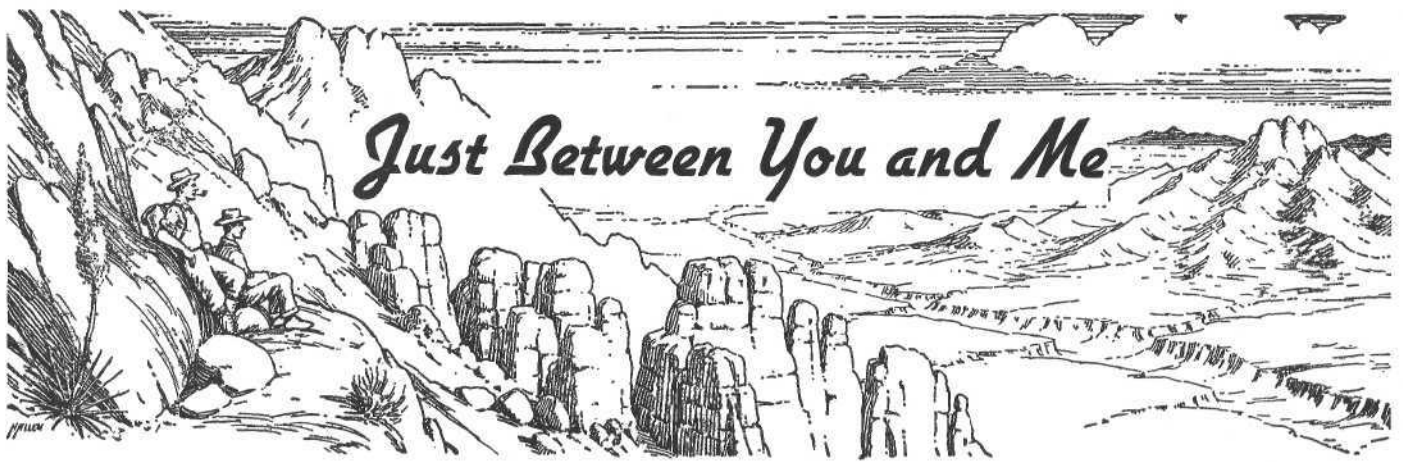
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NEWPORT, OREGON



By RANDALL HENDERSON

**A** DESERT READER writes to ask if we have any information as to the origin of the Mystic Maze on the California mesa near Highway 66 between Needles and Topock.

The answer to that question was contained in a letter written to *Touring Topics Magazine* (predecessor of *Westways*) in January, 1933, by H. W. Dennis, a Los Angeles engineer.

Actually, the mysterious maze was a by-product in the construction of the Topock bridge across the Colorado by the Santa Fe railroad in the early 1880s. The construction men needed great quantities of broken rock for the concrete caissons. They found it was cheaper to scrape up and screen the coarse gravel on the nearby mesa than to operate a rock-crusher. They used a Fresno scraper for the operation, and this explains the tiny parallel windrows of gravel which extend across many acres of the mesa's surface. The details of the operation were explained in 1891 in a report published by the American Society of Civil Engineers.

At one time the California Highway department marked the area with a sign: *Prehistoric Indian Maze*. When the facts became known this sign was changed to *The Rock Maze*.

It is an interesting relic of the trail-blazing days on the desert frontier, and as such deserves to be preserved, as the civic-minded people of Needles are proposing to do.

\* \* \*

The ways of humans are quite beyond the ken of my simple mind. For instance I have been reading in the metropolitan newspapers about the delegation of high-pressure salesmen sent East recently by Los Angeles to try to induce more industry to come to Southern California.

With its traffic all snarled up; its air so polluted it is threatened with a major disaster; a water supply so inadequate it is now drawing from the Rocky Mountain watershed and trying to borrow more from the Feather River in Northern California; its gardens and orchards and vineyards being plowed up for more subdivisions—still it is asking for more factories and people and traffic congestion and air pollution.

To me, it doesn't make sense. Or, am I wrong?

\* \* \*

Nell Murbarger's story in last month's *Desert Magazine* revealing the many injustices which will result from the Navy's proposed two million acre landgrab in northwestern Nevada, has brought many letters from readers who share the indignation of Nevada people over the land seizures of the armed forces.

The Congressional committee on Interior and Insular Affairs made quite an exhaustive study of Army, Navy and Air Force operations in the West, and issued this note of warning:

*"The program for the defense of our nation's human and natural resources should not, and must not, be so conducted as to destroy the very resources it is aimed at preserving."*

"Destroy" is the proper word, for land once used for bombing and target purposes, if not permanently made unfit for human habitation will at least be unsafe for restoration to the public domain for another generation. That is why it is important that the public be aroused over the seriousness of the seizures.

\* \* \*

On the Hopi mesas in northern Arizona there is recurring evidence of a factional clash between the older and younger generations of tribesmen.

For many centuries the Hopi tribesmen have lived a quiet, peaceful existence based on agriculture and crafts work. So peaceful are these people that once when Apache raiders were coming too often to rob their granaries, they induced Tewa warriors from the Rio Grande pueblos to move in and guard the gateway to their villages.

Today younger members of the Hopi tribe are going out into the white man's world and returning with ideas that would change the traditional Hopi way of life.

It is not for you or me to say which generation is right—the elders or the young people. Certainly there is much of virtue in the customs and beliefs of the old people. They are honest, loyal to family and friends, faithful to their gods, and always diligent workers. They are good people, either by their own or the white man's code.

Their tragedy is that they live in a world where change is one of the basic laws of the universe. It is easy for people to accept changes in the physical world—new styles in clothing and housing and the gadgets of a machine age. But how difficult it is to change long established religious beliefs and the codes of life which determine conduct and manners!

Somehow the Hopi will reconcile their differences. We can only hope that if the younger members of the tribe are to adopt some of the white man's ideas, they will also understand and accept his ideals—that before they discard the gods of their fathers they will acquire a reverence for the Deity of the white man. For it is better to have faith in the wrong gods than to have no faith at all.



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